JUNE 1983 NUMBER 466 -- Part II

AUG 15 1983

Solar-Geophysical Data comprehensive reports

Data for December 1982, & Miscellanea

Explanation of Data Reports Issued as Number 462 (Supplement) February 1983

Astronomy
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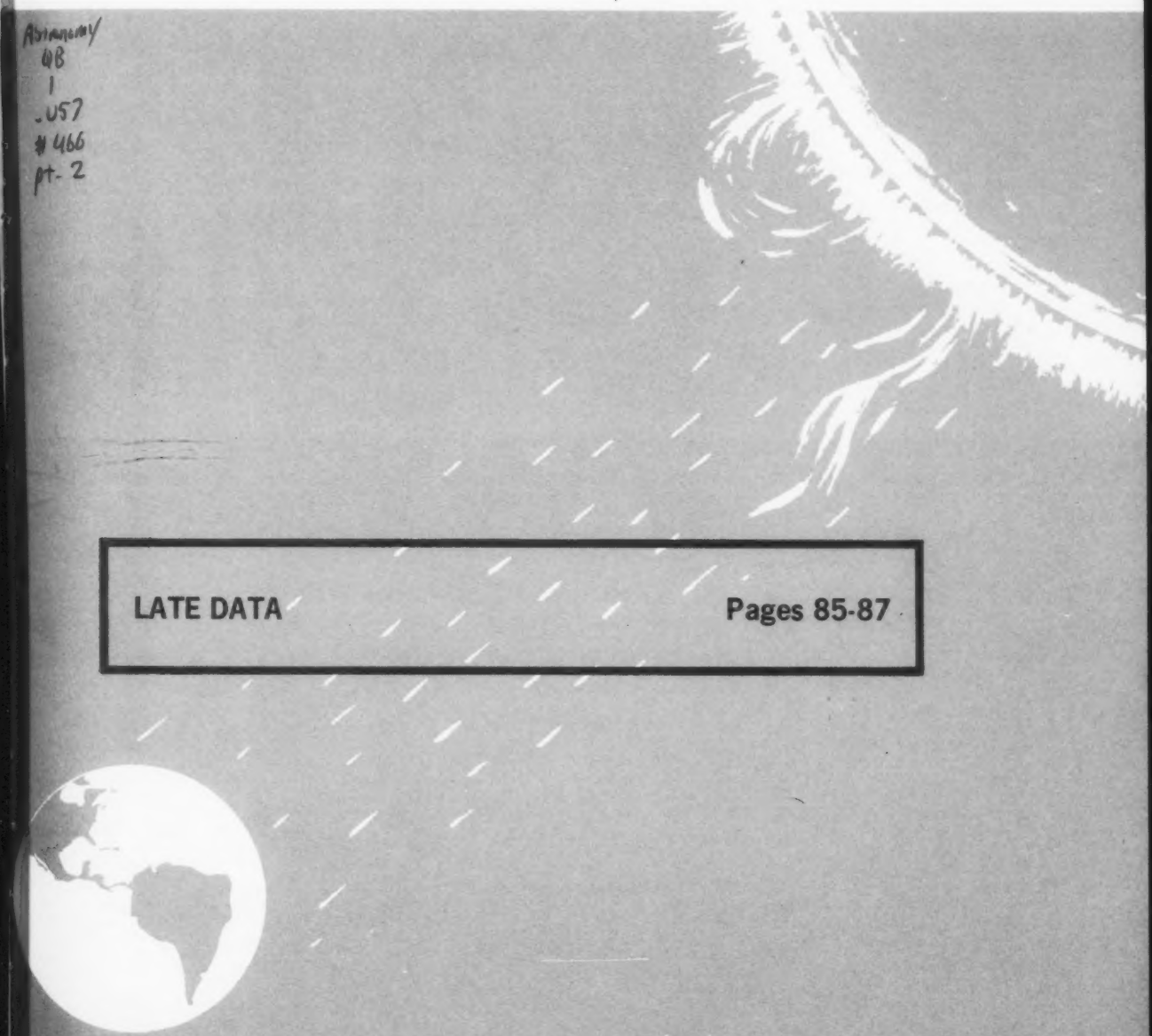

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Solar - Geophysical Data

Part II (Comprehensive Reports)

NO. 466 JUNE 1983

DATA FOR
DECEMBER 1982

Michael A. Chinnery, Director
NATIONAL GEOPHYSICAL DATA CENTER
BOULDER, COLORADO

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SOLAR-GEOPHYSICAL DATA

No. 466

Issued in two parts

Helen E. Coffey, Editor

Joe H. Allen, Chief
Solar-Terrestrial Physics Division

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"455A 44" listed under 1982 Apr means that the sunspot drawings for Apr 1982 were contained in Solar-Geophysical Data Number 455 - Part I, beginning on page 44.

A = Part I, B = Part II.

--- = no data available.
blank = data not yet received.

*Solar radio noise bursts observed at Athens, Learmonth, Manila, Palehua and Sagamore Hill during Aug 1979 through Oct 1980 appear in Solar-Geophysical Data, Number 461, Part II, pages 103-235.

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"455A 44" listed under 1982 Apr means that the sunspot drawings for Apr 1982 were contained in Solar-Geophysical Data Number 455 - Part I, beginning on page 44.

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SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

DECEMBER 1982

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
01	208	VORO	44	NS	0000.0E		240.0D		2.0		
	200	GORK	44	NS	0603.0E		354.0D		5.0		
	410	LEAR	43	NS	0635.6	0654.8	240.4D	38.0			QL=6 ST=2 TYP=1
	260	ONDR	44	NS	0810.0E	1133.0U	345.0D				
	245	SGMR	43	NS	1218.0	1500.6	509.0	119.0			QL=6 ST=2 TYP=1
	410	LEAR	43	NS	2149.0	0613.3	768.0D	48.0			QL=6 ST=2 TYP=1
	245	LEAR	43	NS	2149.0	0924.1	768.0D	210.0			QL=6 ST=2 TYP=1
	3750	TYKW	45	C	0010.0	0011.1	3.0	6.0	1.0		
	9400	TYKW	5	S	0010.5	0011.1	2.5	10.0	2.5		
	4995	LEAR	8	S	0010.8	0011.0	.5	8.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	0010.8	0011.0	.3	19.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0011.0	0011.1	.1	13.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0015.8	0016.0	.3	20.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0015.8	0016.0	.3	10.0			QL=6 ST=2 TYP=3
	1000	TYKW	5	S	0022.0	0022.7	2.5	2.5	1.0		
	100	HIRA	46	C	0028.3	0029.0	1.7	1800.0	470.0		O
	245	LEAR	47	GB	0028.3	0029.1	1.8	160.0			QL=6 ST=2 TYP=5
	200	HIRA	46	C	0028.3	0029.1	1.5	105.0	54.0		WR
	100	HIRA	42	SER	0044.6	0045.0	4.0	1250.0			WL
	9400	TYKW	5	S	0058.5	0058.9	1.5	16.0	3.0		
	3750	TYKW	20	GRF	0113.0	0129.0	45.0	2.0	1.0		
	2000	TYKW	20	GRF	0115.0	0125.0	80.0	3.0	1.5		
	1000	TYKW	5	S	0309.0	0310.1	1.5	32.0	2.0		
	2000	TYKW	20	GRF	0327.0	0416.0	85.0	3.0	1.5		
	3750	TYKW	20	GRF	0341.0	0415.0	75.0	5.0	2.0		
	2000	TYKW	5	S	0508.0	0513.0	20.0	2.0	1.0		
	3750	TYKW	5	S	0510.0	0513.0	15.0	2.0	1.0		
	410	LEAR	8	S	0555.1	0555.1	.2	10.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0555.1	0555.1	.2	4.0			QL=6 ST=2 TYP=3
	610	LEAR	8	S	0555.1	0555.1	.2	7.0			QL=6 ST=2 TYP=3
	3100	CRIM	26	FAL	0700.0	0800.0		6.0			
	930	BORD	8	S	1015.2	1015.3	.2	33.0	1.0		
	810	KRAK	8	S	1015.4	1015.5	.3	11.0			
	536	ONDR	8	S	1020.5	1021.0	1.0	4.0			
	430	KRAK	8	S	1041.8	1042.2	.7	95.0			
	430	KRAK	27	RF	1201.0	1202.0	9.0	11.0			
	430	KRAK			1201.0	1205.5		13.0			
	810	KRAK	8	S	1235.2	1235.3	.2	7.0			
	536	ONDR	8	S	1330.0	1330.5	1.0	7.0			
	9400	HUAN	2	S/F	1531.2	1534.4	5.6	5.6	2.0		L
	2800	OTTA	20	GRF	1810.0	1825.0	65.0	2.8	1.9		
	2800	OTTA	20	GRF	2020.0	2040.0	55.0	3.0	1.8		
	3750	TYKW	5	S	2311.0	2318.0	25.0	2.0	1.0		
	1000	TYKW	45	C	2359.0	0010.6	32.0	7.0	2.0D		
	1000	TYKW	21	GRF	2359.0	0057.0	150.0	3.0	1.5		
	1000	TYKW			2359.0	2359.7		6.0			
02	208	VORO	44	NS	0000.0E		240.0D		6.0		
	200	GORK	44	NS	0603.0E		356.0D		5.0		
	100	GORK	43	NS	0658.0		302.0D		25.0		
	204	IZMI	43	NS	0700.0		150.0	30.0			
	127	TORN	44	NS	0710.0E	1147.9	430.0D	1100.0	100.0		V=1
	260	ONDR	44	NS	0815.0E	1133.0U	345.0D				
	245	SGMR	43	NS	1219.0	1512.6	507.0	280.0			QL=6 ST=2 TYP=1
	200	HIRA	44	NS	2130.0E	2334.0	590.0D	10.0	5.0		WR
	245	LEAR	43	NS	2149.0	2345.0	768.0D	169.0			QL=6 ST=2 TYP=1
	410	LEAR	43	NS	2204.1	0009.3	752.9D	50.0			QL=6 ST=2 TYP=1
	3750	TYKW	5	S	0004.0	0010.3	22.0	5.0	2.0		
	2000	TYKW	21	GRF	0008.0	0019.0	40.0D	3.0	1.5D		
	410	LEAR	8	S	0008.1	0009.5	1.5	30.0			QL=6 ST=2 TYP=3
	610	LEAR	47	GB	0008.6	0010.0	1.7	57.0			QL=6 ST=2 TYP=5
	2000	TYKW	45	C	0010.0	0010.9	3.5	19.0	4.0		
	1415	LEAR	8	S	0010.1	0010.8	1.0	5.0			QL=6 ST=2 TYP=3
	2695	LEAR	8	S	0010.3	0010.8	.7	21.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0016.6	0016.8	2.0	13.0			QL=6 ST=2 TYP=3
	9400	TYKW	21	GRF	0135.0	0147.0	50.0	2.0	1.0		
	3750	TYKW	21	GRF	0139.0	0146.0	40.0	3.0	1.0		
	3750	TYKW	5	S	0140.0	0140.8	2.0	1.0	.3		
	2000	TYKW	20	GRF	0144.0	0155.0	30.0	3.0	1.5		
	9400	TYKW	5	S	0209.0	0210.3	3.0	2.5	1.0		
	2000	TYKW	21	GRF	0255.0	0310.0	80.0	2.0	1.0		

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
02	9400	TYKW	5	S	0259.0	0259.8	2.0	11.0	5.0		
	245	LEAR	8	S	0259.0	0259.6	1.1	25.0			QL=6 ST=2 TYP=3
	2695	LEAR	8	S	0259.1	0259.8	1.0	13.0			QL=6 ST=2 TYP=3
	17000	NAGO	1	S	0259.1	0259.8	3.0	18.0			L
	35000	NAGO	1	S	0259.1	0259.8	3.0	18.0	1.6		
	500	HIRA	8	S	0259.3	0259.3	.3	50.0	35.0		WR
	1415	LEAR	8	S	0259.3	0259.8	.8	6.0			QL=6 ST=2 TYP=3
	610	LEAR	47	GB	0259.3	0259.8	.8	110.0			QL=6 ST=2 TYP=5
	15400	LEAR	8	S	0259.3	0300.0	1.0	21.0			QL=6 ST=2 TYP=3
	3750	TYKW	45	C	0259.4	0259.6	.6D	19.0	6.0D		
	8800	LEAR	8	S	0259.5	0259.6	.3	13.0			QL=6 ST=2 TYP=3
	410	LEAR	47	GB	0259.5	0259.6	.3	71.0			QL=6 ST=2 TYP=5
	1000	TYKW	5	S	0259.5	0259.7	.5D	7.0	3.0D		
	2000	TYKW	5	S	0259.5	0259.7	1.5	7.0	2.0		
	9400	TYKW	29	PBI	0311.0		20.0	2.0	1.0		
	1000	TYKW	5	S	0321.0	0324.4	8.0	10.0	5.0		
	3750	TYKW	45	C	0322.0	0325.0	16.0	4.0	1.5		
	500	HIRA	1	S	0322.3	0323.9	7.0	6.0	3.0		O
	610	LEAR	4	S/F	0322.3	0324.3	5.5	7.0			QL=6 ST=2 TYP=3
	4995	LEAR	20	GRF	0322.3	0324.3	4.5	5.0			QL=6 ST=2 TYP=2
	1415	LEAR	4	S/F	0322.3	0324.3	8.0	13.0			QL=6 ST=2 TYP=3
	2695	LEAR	4	S/F	0322.3	0324.6	9.5	7.0			QL=6 ST=2 TYP=3
	410	LEAR	20	GRF	0322.8	0324.1	3.5	4.0			QL=6 ST=2 TYP=2
	2000	TYKW	45	C	0323.0	0324.1	9.0	7.0	2.5		
	1000	TYKW	29	PBI	0329.0		20.0	4.0	2.0		
	2000	TYKW	29	PBI	0332.0		20.0	2.0	1.0		
	9400	TYKW	5	S	0340.0	0343.0	8.0	4.0	2.0		
	200	HIRA	46	C	0426.3	0426.4	.8	175.0	78.0		MR
	200	HIRA	42	SER	0529.4	0550.5	60.0	167.0			MR
	2950	GORK	20	GRF	0540.7	0544.0	129.0	13.9			
	9395	PEKG	45	C	0541.0	0542.5	7.0	40.4	1.0		
	3750	TYKW	5	S	0542.0	0542.5	1.0	25.0	4.0		
	9400	TYKW	5	S	0542.0	0542.5	1.0	37.0	12.0		
	2840	PEKG	8	S	0542.0	0542.5	1.0	111.0	9.8		
	610	LEAR	8	S	0542.1	0542.5	1.2	18.0			QL=6 ST=2 TYP=3
	1415	LEAR	8	S	0542.1	0542.6	.7	11.0			QL=6 ST=2 TYP=3
	17000	NOBE	1	S	0542.2	0542.4	1.5	37.0			L
	410	LEAR	47	GB	0542.3	0542.3	.3	67.0			QL=6 ST=2 TYP=5
	4995	LEAR	8	S	0542.3	0542.3	.3	17.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	0542.3	0542.3	.5	42.0			QL=6 ST=2 TYP=3
	15400	LEAR	8	S	0542.3	0542.3	.3	42.0			QL=6 ST=2 TYP=3
	1000	TYKW	5	S	0542.3	0542.5	1.0	4.5	1.5		
	2000	TYKW	5	S	0542.3	0542.5	1.0	13.0	3.0		
	2695	LEAR	47	GB	0542.3	0542.5	.3	91.0			QL=6 ST=3 TYP=5
	9400	TYKW	29	PBI	0543.0		6.0	7.0	2.5		
	3750	TYKW	29	PBI	0543.0		5.0	2.0	1.0		
	100	HIRA	46	C	0634.3	0642.6	37.0	2900.0	163.0		O
	200	HIRA	46	C	0635.3	0642.2	40.0D	585.0	34.0U		O
	2000	TYKW	5	S	0640.0	0646.5	20.0	12.0	3.0		
	3750	TYKW	5	S	0640.0	0646.5	20.0	10.0	4.0		
	100	GORK	41	F	0640.2	0644.0U	18.0	60.0D			
	100	GORK			0640.2	0651.5U		60.0D			
	100	GORK			0640.2	0654.8U		60.0D			
	650	GORK	23	GRF	0640.2	0657.3	30.2	7.0			
	245	LEAR	47	GB	0640.8	0643.8	7.5	189.0			QL=6 ST=2 TYP=5
	3100	CRIM	20	GRF	0641.0	0646.0	28.0	11.0	4.0		
	950	GORK	23	GRF	0641.0	0647.0	24.4	7.0			
	1415	LEAR	20	GRF	0641.5	0644.5	7.3	15.0			QL=6 ST=2 TYP=2
	2695	LEAR	20	GRF	0641.5	0647.3	11.1	17.0			QL=6 ST=2 TYP=2
	4995	LEAR	20	GRF	0641.5	0648.0	11.1	11.0			QL=6 ST=2 TYP=2
	410	LEAR	20	GRF	0642.8	0646.3	4.8	18.0			QL=6 ST=2 TYP=2
	610	LEAR	20	GRF	0643.8	0644.3	2.0	6.0			QL=6 ST=2 TYP=2
	9100	GORK	20	GRF	0645.0E	0702.2	45.0D	13.0			
	650	GORK	46	C	0659.5	0700.7	3.2	26.0			
	650	GORK			0659.5	0702.0		10.0			
	950	GORK	3	S	0659.6	0700.2	1.4	17.0			
	610	LEAR	8	S	0659.8	0700.6	1.2	34.0			QL=6 ST=2 TYP=3
	1000	TYKW	5	S	0700.0	0700.3	1.5	17.0	6.0		
	410	LEAR	4	S/F	0700.1	0700.8	4.0	43.0			QL=6 ST=2 TYP=3
	930	BORD	41	F	0807.2	0807.6	.6	28.0	3.0		
	234	POTS	4	S/F	0924.1	0924.2	.6	130.0	20.0		

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
02	930	BORD	46	C	1003.0	1003.2	.4	20.0	3.0		
	536	ONDR	2	S/F	1047.0	1047.5	1.0	4.0			
	810	KRAK	8	S	1243.5	1243.6	.1	19.0			
	536	ONDR	2	S/F	1248.0	1248.5	1.0	3.0			
	9400	HUAN	1	S	1411.2	1413.2	3.5	8.3	3.9		0
	9400	HUAN	20	GRF	1514.6	1522.7	21.4	6.9	3.3		0
	2800	OTTA	20	GRF	1515.0	1525.0	35.0	6.0	2.2		
	2800	OTTA	240	R	1730.0	1736.0	6.0	7.0	4.0		
	2800	OTTA	23	GRF	1738.0	1742.0	110.0	15.8	8.0		
	9400	HUAN	20	GRF	1739.1	1812.5	61.1	13.8	8.5		0
	2800	OTTA	40	F	1742.5	1743.0	5.0	6.0			
	410	SGMR	8	S	1748.0	1748.1	1.1	17.0			QL=6 ST=2 TYP=3
	1415	SGMR	20	GRF	1807.8	1808.1	3.0	17.0			QL=6 ST=2, TYP=2
	610	SGMR	47	GB	1807.8	1809.1	10.5	189.0			QL=6 ST=2 TYP=5
	410	SGMR	47	GB	1809.3	1810.0	9.0	21.0			QL=6 ST=2 TYP=5
	2695	SGMR	8	S	1810.6	1810.8	1.2	18.0			QL=6 ST=2 TYP=3
	1415	SGMR	20	GRF	1914.3	1915.8	5.5	21.0			QL=6 ST=2 TYP=2
	410	SGMR	47	GB	1914.3	1917.6	19.5	330.0			QL=6 ST=2 TYP=5
	610	SGMR	47	GB	1914.3	1917.6	11.5	119.0			QL=6 ST=2 TYP=5
	1415	SGMR	20	GRF	1933.8	1934.3	1.2	17.0			QL=6 ST=2 TYP=2
	410	SGMR	20	GRF	1933.8	1936.8	5.5	60.0			QL=6 ST=2 TYP=2
	2695	PENT	4	S/F	2108.0	2111.8	9.0	50.0	23.0		
	9400	HUAN	22	GRF	2110.3	2120.0	24.9	17.9	11.4		0
	2695	PENT	29	PBI	2117.0	2117.0	13.0	7.4			
	3750	TYKW	5	S	2239.5	2241.4	6.0	21.0	6.0		
	9400	TYKW	5	S	2240.0	2241.3	6.0	19.0	6.0		
	9400	TYKW	5	S	2300.0	2302.0	6.0	3.0	1.5		
	3750	TYKW	5	S	2301.0	2302.0	4.0	1.5	.5		
	1000	TYKW	45	C	2301.5	2301.7	1.5	7.0	2.0		
	3750	TYKW	5	S	2310.0	2312.2	4.0	17.0	7.0		
	9400	TYKW	5	S	2311.0	2312.0	9.0	3.0	1.5		
	2000	TYKW	5	S	2311.0	2312.7	15.0	3.0	1.0		
	2695	LEAR	4	S/F	2311.3	2312.0	2.7	21.0			QL=6 ST=2 TYP=3
	4995	LEAR	4	S/F	2311.3	2312.1	2.7	16.0			QL=6 ST=2 TYP=3
	1000	TYKW	5	S	2313.0	2313.1	.6	23.0	4.0		
	3750	TYKW	30	PBI	2314.0		25.0	5.0	2.0		
	3750	TYKW	5	S	2316.0	2316.4	1.0	1.5	.5		
	3750	TYKW	5	S	2323.0	2323.6	5.0	3.0	1.0		
	3750	TYKW	21	GRF	2350.0	0028.5	180.0	6.0	3.0		
	2000	TYKW	21	GRF	2350.0	0033.0	180.0	4.0	2.0		
	1000	TYKW	20	GRF	2350.0	0045.0	160.0	5.0	2.5		
03	208	VORO	44	NS	0000.0E		240.0D		1.0		
	200	GORK	44	NS	0557.0E		330.0D	5.0			
	260	ONDR	44	NS	0810.0E	1201.5	344.0D	74.0			
	245	SGMR	43	NS	1220.0	2016.1	506.0D	480.0			QL=6 ST=2 TYP=1
	200	HIRA	44	NS	2130.0E	0254.0	595.0D	45.0	15.0		0
	245	LEAR	43	NS	2150.0	0352.1	768.0D	380.0			QL=6 ST=2 TYP=1
	9400	TYKW	5	S	0003.0	0003.7	6.0	4.0	1.5D		
	17000	NOBE	1	S	0003.0	0003.7	2.5	22.0			L
	15400	LEAR	4	S/F	0003.1	0003.6	3.2	20.0			QL=6 ST=2 TYP=3
	9400	TYKW	21	GRF	0014.0	0040.0	170.0	4.0	2.0		
	3750	TYKW	21	GRF	0107.0	0149.0	100.0	9.0	5.0		
	9400	TYKW	21	GRF	0110.0	0130.0	100.0	11.0	5.0		
	2000	TYKW	20	GRF	0110.0	0155.0	95.0	4.0	2.0		
	9395	PEKG	21	GRF	0110.0	0122.0	77.0	10.6	2.7		
	9400	TYKW	45	C	0111.0	0113.4	8.0	15.0	4.0		
	9395	PEKG	45	C	0112.0	0113.4	8.0	11.8	3.1		
	3750	TYKW	5	S	0112.5	0113.7	7.0	7.0	2.5		
	17000	NOBE	20	GRF	0112.8	0113.7	40.0	14.0			0
	8800	LEAR	8	S	0115.8	0115.8	1.0	27.0			QL=6 ST=2 TYP=3
	15400	LEAR	4	S/F	0116.0	0118.0	2.1	17.0			QL=6 ST=2 TYP=3
	9400	TYKW	5	S	0232.0	0234.0	13.0	3.0	1.5		
	245	LEAR	47	GB	0236.3	0236.6	.8	130.0			QL=6 ST=2 TYP=5
	4995	LEAR	4	S/F	0302.1	0303.3	5.9	11.0			QL=6 ST=2 TYP=3
	9400	TYKW	5	S	0302.5	0303.3	1.5D	5.0	2.0D		
	8800	LEAR	8	S	0302.8	0303.1	1.7	10.0			QL=6 ST=2 TYP=3
	3750	TYKW	45	C	0303.0E	0303.3	4.0D	6.0	2.0D		
	9400	TYKW	5	S	0400.0	0400.8	2.0	5.0	2.0		
	610	LEAR	8	S	0514.1	0514.1	.2	20.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0556.8	0556.8	.2	16.0			QL=6 ST=2 TYP=3

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
03	610	LEAR	8	S	0556.8	0556.8	.2	10.0			QL=6 ST=2 TYP=3
	2950	GORK	20	GRF	0606.6	0906.0	264.0D	27.0			
	6100	KISV	1	S	0637.4	0638.2	3.5	4.0			
	3750	TYKW	5	S	0637.5	0638.2	2.5	6.0	2.0		
	6100	KISV	1	S	0841.4	0841.7	1.0	3.0			
	6100	KISV	1	S	0844.7	0845.7	4.0	7.0			
	9100	GORK	1	S	0845.3	0845.8	2.0	13.0			
	9500	POTS	23	GRF	0858.0	0908.0	27.0	26.0			
	9100	GORK	22	GRF	0858.2	0907.8	113.0	30.0			
	6100	KISV			0858.5	0901.9		16.0			
	6100	KISV	46	C	0858.5	0905.2	14.0	22.0			
	6100	KISV			0858.5	0907.9		20.0			
	8800	LEAR	4	S/F	0900.8	0901.8	12.3	31.0			QL=6 ST=2 TYP=3
	2695	LEAR	4	S/F	0901.5	0903.8	5.6	13.0			QL=6 ST=2 TYP=3
	4995	LEAR	8	S	0901.6	0901.8	.4	13.0			QL=6 ST=2 TYP=3
	15400	LEAR	4	S/F	0901.6	0903.6	10.0	23.0			QL=6 ST=2 TYP=3
	6100	KISV	29	PBI	0912.5	0912.5	90.0	12.0			
	430	KRAK	42	SER	0940.7	0943.4	40.0	37.0			
	430	KRAK			0940.7	1015.8		37.0			
	6100	KISV	20	GRF	0953.0	1005.0	25.0	5.0			
	536	ONDR	8	S	1017.5	1018.0	1.0	6.0			
	650	GORK	4	S/F	1048.8	1049.0	1.0	24.0	7.0		
	810	KRAK	42	SER	1048.8	1049.5	.7	7.0			
	536	ONDR	2	S/F	1049.0	1049.5	1.5	6.0			
	127	TORN	41	F	1235.0	1238.8	6.0	30.0	10.0		
	113	POTS	42	SER	1354.2	1354.3	2.1	220.0	5.0		
	2800	OTTA	20	GRF	1750.0	1815.0	70.0	3.0	2.1		
	9400	HUAN	21	GRF	1831.6	1844.2	27.2	5.2	3.5		0
	9400	HUAN	1	S	1848.7	1849.7	2.0	2.6	1.3		0
	9400	HUAN	1	S	1913.7	1914.3	2.4	11.8	3.4		0
	9400	HUAN	1	S	1928.4	1929.0	2.0	6.6	2.0		R
	2800	OTTA	20	GRF	1935.0	2000.0	65.0	3.2	1.6		
	9400	HUAN	1	S	1937.8	1939.6	3.8	3.9	2.6		0
	9400	HUAN	2	S/F	2141.2	2143.5	5.4	9.2	5.1		R
	2695	PENT	1	S	2142.0	2143.0	2.5	8.2	4.0		
	410	LEAR	47	GB	2224.0	2224.1	.1	72.0			QL=6 ST=2 TYP=5
	410	LEAR	47	GB	2235.1	2235.1	.2	119.0			QL=6 ST=2 TYP=5
	610	LEAR	47	GB	2235.1	2235.1	.2	58.0			QL=6 ST=2 TYP=5
	8800	LEAR	4	S/F	2249.8	2250.1	2.5	11.0			QL=6 ST=2 TYP=3
	9400	TYKW	45	C	2250.0	2250.2	3.0	10.0	3.0		
	3750	TYKW	45	C	2300.0	2300.7	5.0	49.0	11.0		
	9400	TYKW	5	S	2300.0	2300.7	3.0	78.0	22.0		
	17000	NOBE	1	S	2300.0	2300.8	5.0	57.0			0
	8800	LEAR	47	GB	2300.3	2300.6	6.3	90.0			QL=6 ST=2 TYP=5
	4995	LEAR	47	GB	2300.3	2300.6	6.3	81.0			QL=6 ST=2 TYP=5
	15400	LEAR	4	S/F	2300.3	2300.6	6.5	49.0			QL=6 ST=2 TYP=3
	2695	LEAR	4	S/F	2300.5	2300.6	3.5	20.0			QL=6 ST=2 TYP=3
	100	HIRA	46	C	2302.9	2304.1	4.0	5100.0	390.0		0
	9400	TYKW	29	PBI	2303.0		35.0	10.0	4.0		
	2000	TYKW	5	S	2303.0	2303.8	7.0	4.0	1.5		
	410	LEAR	4	S/F	2303.0	2303.5	2.1	11.0			QL=6 ST=2 TYP=3
	3750	TYKW	29	PBI	2305.0		40.0	4.0	2.0		
	245	LEAR	47	GB	2345.5	2345.6	1.5	160.0			QL=6 ST=2 TYP=5
	2000	TYKW	21	GRF	2355.0	0023.0	145.0	4.0	2.0		
04	208	VORO	44	NS	0000.0E		240.0D		13.0		
	100	HIRA	43	NS	0019.0	0355.0	380.0D	2100.0	490.0		MR
	100	GORK	44	NS	0557.0E		354.0D		10.0		
	200	GORK	44	NS	0606.0E		342.0D		5.0		
	221	ABST	43	NS	0632.2	0714.0	105.0	13.0			
	204	IZMI	43	NS	0700.0		300.0	20.0			
	127	TORN	44	NS	0730.0E	1258.0	380.0D	1200.0	36.0		V=1
	260	ONDR	44	NS	0758.0E	1256.5	355.0D	189.0			
	245	SGMR	43	NS	1221.0	1630.1	505.0D	139.0			QL=6 ST=2 TYP=1
	410	SGMR	43	NS	1221.0	2003.8	505.0D	69.0			QL=6 ST=2 TYP=1
	200	HIRA	44	NS	2130.0E	0248.0	595.0D	180.0	85.0		MR
	245	LEAR	43	NS	2150.0	0134.8	769.0D	189.0			QL=6 ST=2 TYP=1
	410	LEAR	43	NS	2150.0	0219.3	769.0D	50.0			QL=6 ST=2 TYP=1
	9400	TYKW	21	GRF	0000.0	0034.0	150.0	6.0	3.0		
	3750	TYKW	21	GRF	0005.0	0045.0	160.0	7.0	4.0		
	100	HIRA	46	C	0009.5	0012.0	6.0	280.0	48.0		WR

SOLAR RADIO EMISSION
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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
04	200	HIRA	46	C	0010.8	0011.8	1.7	73.0	35.0		0
	1000	TYKW	20	GRF	0044.0	0120.5	85.0	4.0	2.0		
┌	9400	TYKW	5	S	0046.5	0047.0	3.0	7.0	2.0		
└	8800	LEAR	4	S/F	0046.5	0047.0	3.3	11.0			QL=6 ST=2 TYP=3
┌	3750	TYKW	20	GRF	0058.0	0136.0	80.0	5.0	2.5		
├	2000	TYKW	20	GRF	0058.0	0136.0	80.0	3.0	1.5		
└	9400	TYKW	20	GRF	0115.0	0135.0	60.0	4.0	2.0		
	410	LEAR	8	S	0119.5	0119.6	1.5	17.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0216.3	0216.8	.5	18.0			QL=6 ST=2 TYP=3
	3750	TYKW	20	GRF	0329.0	0342.0	40.0	2.0	1.0		
┌	8800	LEAR	4	S/F	0330.8	0333.0	4.3	11.0			QL=6 ST=2 TYP=3
├	9400	TYKW	5	S	0332.0	0333.0	5.0	4.0	1.5		
└	200	HIRA	46	C	0332.0	0332.7	1.0	870.0	430.0		MR
	9400	TYKW	5	S	0345.0	0346.0	3.0	3.0	1.0		
┌	9400	TYKW	21	GRF	0420.0	0425.0	30.0	4.0	2.0		
└	3750	TYKW	45	C	0421.0	0426.0	17.0	8.0	4.0		
	2000	TYKW	5	S	0421.0	0426.0	25.0	1.5	.7		
	3750	TYKW	29	PBI	0438.0		16.0	2.0	1.0		
┌	9400	TYKW	5	S	0442.0	0443.3	4.0	8.0	2.5		
└	9395	PEKG	3	S	0442.0	0443.3	4.0	14.5			
┌	9400	TYKW	45	C	0524.0	0528.0	6.0	27.0	8.0		
├	9395	PEKG	45	C	0524.0	0528.0	16.0	27.9	13.7		
├	2840	PEKG	3	S	0527.0	0528.0	3.0	16.1	7.3		
├	8800	LEAR	4	S/F	0527.1	0527.8	3.5	33.0			QL=5 ST=3 TYP=3
├	3750	TYKW	5	S	0527.5	0527.9	2.5	17.0	5.0		
├	4995	LEAR	4	S/F	0527.6	0527.8	3.0	26.0			QL=6 ST=2 TYP=3
├	2695	LEAR	8	S	0527.8	0527.8	1.0	11.0			QL=6 ST=2 TYP=3
└	15400	LEAR	8	S	0527.8	0527.8	1.0	18.0			QL=6 ST=2 TYP=3
┌	9400	TYKW	29	PBI	0530.0		10.0	8.0	4.0		
└	3750	TYKW	29	PBI	0530.0		11.0	4.0	2.0		
	2950	GORK	21	GRF	0657.0	0900.0	273.0D	11.8			
	650	GORK	21	GRF	0708.1	0807.7	96.1	7.0			
	410	LEAR	8	S	0718.8	0718.8	.2	13.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0723.6	0723.6	.2	17.0			QL=6 ST=2 TYP=3
┌	2695	LEAR	20	GRF	0754.6	0847.1	65.2	25.0			QL=6 ST=2 TYP=2
├	4995	LEAR	20	GRF	0754.8	0810.6	58.5	10.0			QL=6 ST=2 TYP=2
├	8800	LEAR	20	GRF	0755.0	0810.6	54.8	10.0			QL=5 ST=3 TYP=2
└	950	GORK	2	S/F	0756.3	0801.2	6.2	5.5			
	650	GORK	8	S	0756.7	0757.0	.4	25.0			
	410	LEAR	8	S	0808.8	0808.8	.2	15.0			QL=6 ST=2 TYP=3
	6100	KISV	1	S	0810.9	0811.0	.5	3.0			
	536	ONDR	4	S/F	0847.0	0849.5	5.0	10.0			
	536	ONDR	45	C	0854.0	0901.0	7.0	17.0	9.0		
	9100	GORK	21	GRF	0907.0	0918.0	45.0	15.0			
┌	6100	KISV	4	S/F	0912.5	0914.5	3.5	67.0			
├	3000	POTS	29	PBI	0913.0	0914.4	37.0	20.0			
├	9100	GORK	4	S/F	0913.0	0914.4	2.4	44.0			
├	9500	POTS	29	PBI	0913.0	0914.5	47.0	44.0			
├	2950	GORK	4	S/F	0913.0	0914.5	5.3	12.1			
├	8400	BERN	4	S/F	0913.2	0914.7	23.0	67.0			ONLY PAPER REC
├	3100	BERN	4	S/F	0913.2	0914.7	16.0	26.0			ONLY PAPER REC
└	5200	BERN	45	C	0913.2	0914.7	16.0	69.0			ONLY PAPER REC
	6100	KISV	29	PBI	0916.0	0916.0	30.0	14.0			
┌	3000	POTS	1	S	0926.0	0926.5	1.7	14.0			
├	9500	POTS	3	S	0926.2	0926.6	1.5	17.0			
├	2950	GORK	1	S	0926.3	0926.5	1.0	4.8	2.4		
├	9100	GORK	1	S	0926.3	0926.5	.9	15.0			
└	6100	KISV	1	S	0926.3	0926.5	1.5	9.0			
┌	6100	KISV	3	S	1011.0	1012.4	2.0	15.0			
├	9100	GORK	23	GRF	1011.4	1037.4	60.5	10.0			
├	2950	GORK	1	S	1012.0	1012.3	1.0	7.3	3.6		
├	9100	GORK	1	S	1012.0	1012.3	.6	13.0	6.0		
├	4995	LEAR	8	S	1012.1	1012.3	.5	18.0			QL=6 ST=2 TYP=3
├	8800	LEAR	8	S	1012.1	1012.3	.4	13.0			QL=5 ST=2 TYP=3
└	2695	LEAR	8	S	1012.1	1012.3	.4	6.0			QL=6 ST=2 TYP=3
	810	KRAK	27	RF	1023.5	1025.0	3.5	5.0			
┌	9500	POTS	3	S	1040.5	1041.2	1.3	15.0			
├	6100	KISV	4	S/F	1040.5E	1041.3	1.0D	13.0D			
└	9100	GORK	2	S/F	1040.8	1041.2	.7	20.0	10.0		
	100	GORK	8	S	1130.0	1130.5U	1.0	70.0D			
	100	GORK	8	S	1143.5	1143.8	.7	70.0D			

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Mean	Int	Remarks
04	9500	POTS	20	GRF	1152.0	1206.4	63.0	16.0			
	430	KRAK	42	SER	1156.0	1257.7	61.7U	108.0			
	3000	POTS	20	GRF	1200.0	1204.3	15.0	14.0			
	1470	POTS	21	GRF	1201.5	1204.3	54.0	13.0			
	9400	HUAN	20	GRF	1202.0	1211.6	35.1	12.4	5.6		0
	536	ONDR	45	C	1204.0	1204.0	2.0	6.0			
	810	KRAK	3	S	1219.3	1220.8	3.8	35.0			
	234	POTS	42	SER	1241.6	1241.8	3.1	140.0	1.0		III
	610	SGMR	8	S	1256.3	1258.0	2.0	31.0			QL=6 ST=2 TYP=3
	410	SGMR	8	S	1256.5	1257.6	1.5	30.0			QL=6 ST=2 TYP=3
	245	SGMR	47	GB	1256.5	1257.8	1.8	280.0			QL=6 ST=2 TYP=5
	810	KRAK	42	SER	1257.0	1304.5	8.0	14.0			
	234	POTS	4	S/F	1257.4	1257.5	.4	360.0	60.0		III
	113	POTS	4	S/F	1257.5	1257.6	.3	1200.0	240.0		III
	234	POTS	4	S/F	1321.9	1322.0	.1	130.0	20.0		III
	2800	OTTA	27	RF	1345.0		100.0	4.0	3.5		
	2800	OTTA	24	R	1345.0	1400.0	15.0	4.0	2.0		
	9400	HUAN	20	GRF	1353.6	1402.7	26.0	2.7	.6		0
	2800	OTTA	24P	R	1400.0		75.0	4.0			
	9400	HUAN	8	S	1446.5	1446.8	.9	45.3	12.6		0
	2800	OTTA	26	FAL	1515.0	1525.0	10.0	-4.0	-2.0		
	2800	OTTA	21	GRF	1620.0	1625.0	25.0	3.6	1.8		
	9400	HUAN	1	S	1628.9	1630.2	3.7	5.5	1.9		L
	2800	OTTA	3	S	1629.0	1630.0	3.5	12.4	4.2		
	2800	OTTA	8	S	1714.0	1714.3	.8	5.8	2.6		
	9400	HUAN	20	GRF	1741.6	1755.5	32.5	6.9	1.3		L
	2800	OTTA	20	GRF	1745.0	1805.0	40.0	2.4	1.6		
	9400	HUAN	2	S/F	1838.5	1838.8	2.4	4.1	2.7		0
	9400	HUAN		GRF	1838.5	1840.1		4.8			0
	2800	OTTA	20	GRF	1940.0	2015.0	35.0D	4.4	2.2		
	9400	HUAN	20	GRF	1947.8	2014.8	63.3	9.6	6.2		0
	1415	SGMR	47	GB	1957.1	1957.6	2.0	58.0			QL=6 ST=2 TYP=5
	1415	LEAR	8	S	2305.3	2305.3	.3	11.0			QL=6 ST=2 TYP=3
	610	LEAR	47	GB	2305.3	2305.3	.5	57.0			QL=6 ST=2 TYP=5
	245	LEAR	47	GB	2313.5	2313.6	.6	119.0			QL=6 ST=2 TYP=5
	410	LEAR	8	S	2313.5	2313.6	.3	26.0			QL=6 ST=2 TYP=3
	3750	TYKW	21	GRF	2340.0	0135.0	250.0	8.0	4.0		
05	208	VORO	44	NS	0000.0E		240.0D		79.0		
	200	GORK	44	NS	0558.0E		348.0D		35.0		
	100	GORK	44	NS	0559.0E		346.0D		10.0		
	221	ABST	44	NS	0600.0E	0725.0	180.0D	30.0			
	204	IZMI	44	NS	0700.0E		300.0D	100.0			
	430	KRAK	44	NS	0800.0E		360.0D	19.0	4.0		
	127	TORN	44	NS	0810.0E	0911.2	370.0D	700.0	25.0		V=1
	260	ONDR	44	NS	0843.0E	1145.0	367.0D	158.0D			
	245	SGMR	44	NS	1222.0E	1447.6	145.6D	200.0			QL=6 ST=1 TYP=1
	100	HIRA	44	NS	2134.0E	0240.0	590.0D	340.0	170.0		WR
	200	HIRA	44	NS	2134.0E	0340.0	590.0D	170.0	80.0		MR
	245	LEAR	43	NS	2150.0	0127.8	769.0D	470.0			QL=6 ST=2 TYP=1
	410	LEAR	43	NS	2150.0	2206.0	769.0D	30.0			QL=6 ST=2 TYP=1
	9400	TYKW	21	GRF	0021.0	0049.0	200.0	6.0	3.0		
	3750	TYKW	21	GRF	0023.0	0030.0	40.0	4.0	2.0		
	100	HIRA	46	C	0025.3	0026.8	3.6	1700.0	420.0		WR
	3750	TYKW	5	S	0026.0	0026.7	2.0	2.0	.7		
	2000	TYKW	21	GRF	0030.0	0100.0	200.0	4.0	2.0		
	1000	TYKW	45	C	0051.0	0052.6	3.0	14.0	1.5		
	610	LEAR	8	S	0051.8	0052.8	1.3	13.0			QL=6 ST=2 TYP=3
	245	LEAR	47	GB	0052.1	0052.5	.7	78.0			QL=6 ST=2 TYP=5
	410	LEAR	8	S	0052.1	0053.0	1.0	20.0			QL=6 ST=2 TYP=3
	1415	LEAR	8	S	0052.5	0052.8	.6	30.0			QL=6 ST=2 TYP=3
	2000	TYKW	5	S	0052.5	0052.8	.8	4.0	1.0		
	3750	TYKW	5	S	0057.0	0057.3	1.0	1.5	.5		
	9400	TYKW	21	GRF	0123.0	0229.0	135.0	11.0	5.0		
	1000	TYKW	5	S	0135.0	0135.3	1.0	2.0	.7		
	9400	TYKW	45	C	0137.3	0137.6	1.0	10.0	2.5		
	3750	TYKW	21	GRF	0141.0	0205.0	125.0	5.0	2.0		
	2000	TYKW	20	GRF	0156.0	0207.0	55.0	3.0	1.5		
	9400	TYKW	5	S	0206.4	0206.7	1.0	3.0	1.0		
	3750	TYKW	5	S	0206.4	0206.7	1.0	4.0	1.0		
	1000	TYKW	5	S	0221.7	0221.8	.6	8.0	1.5		

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
05	1000	TYKW	5	S	0256.5	0257.5	3.5D	3.0	1.0D		
	500	HIRA	46	C	0256.5	0302.8	8.0	130.0	40.0		MR
	410	LEAR	47	GB	0256.8	0257.0	6.0	100.0			QL=6 ST=2 TYP=5
	1415	LEAR	8	S	0256.8	0257.1	1.3	9.0			QL=6 ST=2 TYP=3
	4995	LEAR	8	S	0256.8	0257.1	.7	5.0			QL=6 ST=2 TYP=3
	2695	LEAR	8	S	0256.8	0257.1	.8	10.0			QL=6 ST=2 TYP=3
	2000	TYKW	5	S	0256.8	0257.2	2.0	7.0	1.5		
	610	LEAR	4	S/F	0256.8	0259.0	2.2	27.0			QL=6 ST=2 TYP=3
	3750	TYKW	5	S	0257.0	0257.3	3.0	5.0	1.5		
	9400	TYKW	5	S	0257.0	0258.2	2.5	4.0	1.0		
	3750	TYKW	21	GRF	0304.0	0315.0	42.0	3.0	1.5		
	9400	TYKW	5	S	0308.0	0311.0	10.0	3.0	1.5		
	2000	TYKW	20	GRF	0318.0	0323.0	30.0	1.5	.7		
	3750	TYKW	5	S	0324.0	0326.8	5.0	11.0	4.0		
	9400	TYKW	45	C	0325.0	0325.6	4.0	8.0	2.0		
	8800	LEAR	8	S	0325.8	0326.8	1.7	8.0			QL=5 ST=3 TYP=3
	4995	LEAR	8	S	0325.8	0326.8	1.8	13.0			QL=6 ST=2 TYP=3
	3750	TYKW	29	PBI	0329.0		15.0	4.0	2.0		
	4995	LEAR	20	GRF	0422.0	0446.0	92.0	15.0			QL=6 ST=2 TYP=2
	3750	TYKW	20	GRF	0424.0	0438.0	70.0	7.0	3.5		
	9400	TYKW	21	GRF	0424.0	0446.0	95.0	13.0	6.0		
	8800	LEAR	20	GRF	0424.8	0445.8	89.2	20.0			QL=6 ST=2 TYP=2
	9400	TYKW	5	S	0522.0	0522.4	1.0	5.0	2.0		
	9400	TYKW	5	S	0527.5	0528.6	3.0	3.0	1.0		
	9400	TYKW	5	S	0555.0	0555.7	2.0	6.0	2.0		
	3750	TYKW	20	GRF	0611.0	0622.0	40.0	6.0	3.0		
	9400	TYKW	20	GRF	0611.0	0630.0	45.0	8.0	4.0		
	100	HIRA	46	C	0620.1	0621.1	4.0	2100.0	265.0		0
	2950	GORK	20	GRF	0654.5	0703.0	180.0	11.4			
	9100	GORK	22	GRF	0709.4	0813.1	105.0	26.0	.3		
	2695	LEAR	20	GRF	0750.0	0815.0	100.0	15.0			QL=6 ST=2 TYP=2
	610	LEAR	8	S	0756.8	0757.0	.3	42.0			QL=6 ST=2 TYP=3
	234	POTS	4	S/F	0820.8	0820.8	.3	375.0	40.0		
	6100	KISV	4	S/F	0959.3	1002.2	5.5	208.0			
	3000	POTS	29	PBI	1000.5	1002.4	70.0	102.0			
	9100	GORK	4	S/F	1001.0E	1002.2	2.0D	360.0			
	9500	POTS	29	PBI	1001.0	1002.5	44.0	280.0			
	8400	BERN	4	S/F	1001.1	1002.1	40.0	343.0			
	3100	BERN	3	S	1001.1	1002.2	40.0	101.0			
	5200	BERN	4	S/F	1001.1	1002.2	40.0	260.0			
	15400	LEAR	47	GB	1001.6	1002.1		180.0			QL=6 ST=1 TYP=5
	2950	GORK	3	S	1001.6E	1002.3	2.0D	83.0			
	3000	IZMI	5	S	1001.7	1002.0	3.5	112.0	65.0		
	9100	GORK	29	PBI	1003.0	1003.7	32.3	50.0			
	2950	GORK	29	PBI	1003.6	1003.7	80.0	30.0			
	6100	KISV	29	PBI	1004.8	1005.0	24.0	26.0			
	536	ONDR	8	S	1014.0	1014.5	1.0	8.0			
	234	POTS	4	S/F	1120.8	1120.8	.2	275.0	50.0		
	536	ONDR	8	S	1208.0	1208.5	1.0	7.0			
	810	KRAK	8	S	1208.7	1208.8	.2	17.0			
	234	POTS	4	S/F	1211.8	1211.9	.2	275.0	70.0		
	234	POTS	4	S/F	1229.7	1229.7	.5	360.0	20.0		
	234	POTS	4	S/F	1258.4	1258.5	.2	275.0	50.0		
	810	KRAK	8	S	1302.3	1302.5	.3	7.0			
	9400	HUAN	20	GRF	1327.9	1348.0	44.6	8.3	3.4		
	810	KRAK	41	F	1357.5	1359.3	3.5	20.0	6.0		
	1415	SGMR	47	GB	1359.0	1359.8	1.3	52.0			QL=6 ST=2 TYP=5
	610	SGMR	8	S	1359.3	1359.8	1.0	36.0			QL=6 ST=2 TYP=3
	9400	HUAN	20	GRF	1429.0	1434.9	26.0	9.6	6.1		0
	2800	OTTA	20	GRF	1435.0	1700.0	275.0	14.0	6.8		
	9400	HUAN	20	GRF	1615.0	1628.5	34.6	12.4	7.6		0
	9400	HUAN	1	S	1918.4	1919.2	1.5	5.5	2.3		L
	2800	OTTA	240	R	1920.0	1945.0	25.0	5.0	2.5		
	9400	HUAN	20	GRF	1937.1	1940.5	10.4	4.1	1.2		0
	9400	HUAN	3	S	1958.0	1959.2	2.4	59.2	20.4		R
	4995	SGMR	8	S	1958.6	1959.1	1.0	40.0			QL=6 ST=2 TYP=3
	1415	SGMR	47	GB	1958.8	1958.8	.5	79.0			QL=6 ST=2 TYP=5
	8800	SGMR	47	GB	1958.8	1959.0	.5	77.0			QL=6 ST=2 TYP=5
	15400	SGMR	8	S	1958.8	1959.1	.7	35.0			QL=6 ST=2 TYP=3
	2800	OTTA	20	GRF	2035.0	2040.0	65.0	6.4			
	610	LEAR	8	S	2326.6	2326.6	.5	20.0			QL=6 ST=2 TYP=3

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
05	610	LEAR	47	GB	2335.1	2335.3	.4	89.0			QL=6 ST=2 TYP=5
06	208	VORO	44	NS	0000.0E		240.0D		48.0		
	100	GORK	44	NS	0557.0E		249.0D		5.0		
	200	GORK	44	NS	0558.0E		251.0D		6.0		
	221	ABST	44	NS	0615.0E	0625.0	90.0D	15.0			
	204	IZMI	44	NS	0700.0E		300.0D	150.0			
	127	TORN	44	NS	0730.0E	1006.0	410.0D	2000.0	40.0		V=1
	430	KRAK	44	NS	0800.0E	0850.0	360.0D	49.0	8.0		
	260	ONDR	44	NS	0822.0E	1150.0	338.0D	145.0			
	245	SGMR	43	NS	1223.0	1420.8	502.0D	210.0			QL=6 ST=2 TYP=1
	200	HIRA	44	NS	2134.0E	2335.0	590.0D	45.0	30.0		MR
	100	HIRA	44	NS	2134.0E	2337.0	590.0D	110.0	75.0		MR
	245	LEAR	43	NS	2150.0	0703.6	770.0D	85.0			QL=6 ST=2 TYP=1
	2000	TYKW	20	GRF	0120.0	0215.0	190.0	6.0	3.0		
	3750	TYKW	20	GRF	0120.0	0235.0	180.0	12.0	6.0		
	9400	TYKW	21	GRF	0125.0	0240.0	175.0	12.0	6.0		
	610	LEAR	8	S	0151.6	0151.8	.5	19.0			QL=6 ST=2 TYP=3
	1000	TYKW	45	C	0211.0	0212.2	8.0	6.0	2.0		
	9400	TYKW	5	S	0219.0	0219.4	2.0	3.0	1.0		
	100	HIRA	41	F	0443.9	0444.6	3.0	8700.0			0
	3750	TYKW	5	S	0504.0	0505.0	3.0	10.0	2.5		
	1000	TYKW	5	S	0504.5	0504.9U	1.0	6.0U	2.0		INTERFERENCE
	2000	TYKW	5	S	0504.6	0505.0	3.0	7.0	1.5		
	2000	TYKW	20	GRF	0510.0	0529.0	50.0	3.0	1.5		
	3750	TYKW	20	GRF	0510.0	0529.0	90.0	6.0	3.0		
	2950	GORK	23	GRF	0703.0	0915.0	240.0D	11.4			
	9100	GORK	23	GRF	0717.2	0814.2	232.0	28.0			
	2950	GORK	2	S/F	0728.0	0729.4	1.8	8.9			
	410	LEAR	47	GB	0735.6	0735.8	.4	69.0			QL=6 ST=2 TYP=5
	113	POTS	4	S/F	0739.5	0739.7	.2	350.0	70.0		III
	234	POTS	4	S/F	0747.8	0747.8	.2	750.0	200.0		
	8400	BERN	3	S	0810.0	0812.2	9.0	61.0			ONLY PAPER REC
	1470	POTS	42	SER	0810.0	0812.5	3.0	8.0			
	1415	LEAR	4	S/F	0810.1	0810.8	4.2	13.0			QL=6 ST=2 TYP=3
	1415	ATHN	4	S/F	0810.1	0810.8	2.7	4.0			QL=6 ST=2 TYP=3
	2950	GORK	2	S/F	0810.2	0812.7	3.5	10.2			
	245	LEAR	47	GB	0810.6E	0812.1	4.2D	270.0			QL=6 ST=2 TYP=5
	8800	ATHN	4	S/F	0810.8	0812.3	2.5	27.0			QL=6 ST=2 TYP=3
	8800	LEAR	47	GB	0810.8	0812.3	9.3	70.0			QL=6 ST=2 TYP=5
	2695	LEAR	4	S/F	0810.8	0812.5	5.5	22.0			QL=6 ST=2 TYP=3
	4995	LEAR	4	S/F	0810.8	0812.5	9.3	21.0			QL=6 ST=2 TYP=3
	4995	ATHN	4	S/F	0810.8	0812.6	4.5	29.0			QL=2 ST=2 TYP=3
	15400	LEAR	47	GB	0811.0	0812.3	2.8	100.0			QL=6 ST=2 TYP=5
	2695	ATHN	4	S/F	0811.0	0812.5	2.8	19.0			QL=2 ST=2 TYP=3
	6100	KISV	4	S/F	0811.0	0812.5	4.5	23.0			
	9500	POTS	4	S/F	0811.0	0812.5	3.0	57.0			
	9100	GORK	4	S/F	0811.2	0812.4	2.5	66.0			
	15400	LEAR	8	S	0825.8	0826.0	.7	10.0			QL=6 ST=2 TYP=3
	234	POTS	41	F	0846.0	0846.2	.3	550.0	35.0		
	9100	GORK	2	S/F	0847.4	0848.3	1.2	18.0			
	2950	GORK	2	S/F	0847.9	0848.3	.8	11.5			
	610	LEAR	8	S	0854.0	0854.5	1.1	9.0			QL=6 ST=2 TYP=3
	650	GORK	1	S	0854.0	0854.6	1.2	5.0			
	234	POTS	4	S/F	0919.6	0920.4	1.2	420.0	40.0		III
	8800	ATHN	4	S/F	0937.5	0938.3	3.5	30.0			QL=6 ST=3 TYP=3
	8800	LEAR	47	GB	0938.8	0939.5	4.0	64.0			QL=6 ST=2 TYP=5
	9500	POTS	3	S	0939.0	0939.5	4.0	52.0			
	6100	KISV	3	S	0939.0	0939.6	1.5	15.0			
	15400	LEAR	47	GB	0939.1	0939.3	2.2	62.0			QL=6 ST=2 TYP=5
	9100	GORK	4	S/F	0939.2	0939.6	1.4	53.0			
	3000	POTS	3	S	0950.5	0952.2	2.0	9.0			
	8800	ATHN	4	S/F	0952.5	0953.3	2.1	13.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	0952.8	0953.5	1.8	27.0			QL=6 ST=2 TYP=3
	9500	POTS	3	S	0953.0	0953.6	2.5	25.0			
	15400	LEAR	4	S/F	0953.1	0953.5	2.2	37.0			QL=6 ST=2 TYP=3
	9100	GORK	2	S/F	0953.1	0953.6	1.4	25.0			
	6100	KISV	1	S	0953.2	0953.5	1.0	4.0			
	234	POTS	42	SER	0959.0	1000.5	8.1	500.0	1.0		III
	33	UPIC	45	C	1005.5	1005.8	1.2				
	113	POTS	4	S/F	1005.5	1005.9	2.0	2000.0	400.0		III/V

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
06	29	UPIC	45	C	1005.6	1005.9	1.4				
	9500	POTS	40	F	1023.0	1025.5	3.0	22.0			
	234	POTS	4	S/F	1031.1	1031.1	.3	330.0	60.0		III
	930	BORD	8	S	1107.5	1107.5	.1	32.0	1.0		
	9500	POTS	4	S/F	1117.5	1118.2	3.8	25.0			
	810	KRAK	2	S/F	1303.2	1304.0	1.8	29.0	4.0		
	536	ONDR	45	C	1304.0	1305.0	2.5	299.0	130.0		
	610	SGMR	49	GB	1304.1	1304.6	1.5	1399.0			QL=6 ST=2 TYP=6
	410	SGMR	47	GB	1304.3	1304.8	1.3	340.0			QL=6 ST=2 TYP=5
	430	KRAK	47	GB	1304.3	1305.2	1.5	550.0D	330.0		
	245	SGMR	47	GB	1304.6	1304.8	.5	110.0			QL=6 ST=2 TYP=5
	2800	OTTA	21	GRF	1415.0	1532.0	175.0	9.6	4.4		
	9400	HUAN	20	GRF	1534.4	1545.0	31.5	5.2	3.2		0
	930	BORD	41	F	1538.4	1538.6	.6	31.0	2.0		
	2800	OTTA	1	S	1544.0	1545.0	6.0	4.2	1.6		
	930	BORD	41	F	1544.3	1544.6	1.7	114.0	3.0		
	9400	HUAN	20	GRF	1614.6	1624.6	14.8	3.9	3.0		0
	410	SGMR	4	S/F	1722.1	1722.3		39.0			QL=6 ST=2 TYP=3
	245	SGMR	47	GB	1722.1	1722.5	2.0	160.0			QL=6 ST=2 TYP=5
	610	SGMR	47	GB	1722.1	1723.8	2.4	52.0			QL=6 ST=2 TYP=5
	9400	HUAN	20	GRF	1808.0	1820.2	30.5	9.0	3.4		R
	610	SGMR	47	GB	1808.1	1808.5	3.7	98.0			QL=6 ST=2 TYP=5
	245	SGMR	47	GB	1808.1	1811.3	3.7	59.0			QL=6 ST=2 TYP=5
	410	SGMR	8	S	1811.1	1811.3	.7	43.0			QL=6 ST=2 TYP=3
	9400	HUAN	1	S	1854.0	1854.7	2.2	3.9	1.4		0
	9400	HUAN	20	GRF	1909.4	1920.5	44.1	4.5	2.3		0
	2800	OTTA	240	R	2010.0	2035.0	25.0	9.0	3.0		
	9400	HUAN	1	S	2011.8	2012.5	1.6	3.9	1.0		0
	9400	HUAN	23	GRF	2026.6	2119.8	93.2U	19.4	11.5		0
	9400	HUAN	1	S	2056.8	2057.5	1.5	7.8	3.2		0
	9400	HUAN	45	C	2104.8	2106.2U	11.3	103.5	26.4		R
	2695	PENT	21	GRF	2105.0	2118.0	30.0	8.2	4.4		
	2695	PENT	46F	C	2105.5	2106.7	3.7	61.0	14.0		
	2695	PENT	8	S	2111.0	2111.2	.3	4.0	2.0		
	2695	PENT	46F	C	2112.3	2112.9	2.5	40.0	10.0		
	15400	LEAR	4	S/F	2249.6	2251.6	2.7	22.0			QL=6 ST=2 TYP=3
	2000	TYKW	45	C	2258.0	2259.7	5.0	8.0	3.5		
	200	HIRA	46	C	2303.0	2303.5	1.3	260.0	90.0		WR
	9400	TYKW	21	GRF	2315.0	0000.0	130.0	11.0U	5.0U		
	15400	LEAR	47	GB	2329.5	2330.1	2.1	61.0			QL=6 ST=2 TYP=5
	9400	TYKW	5	S	2329.5	2330.2	3.5	16.0	5.0		
	8800	LEAR	8	S	2329.8	2330.1	.7	21.0			QL=4 ST=2 TYP=3
	1000	TYKW	21	GRF	2350.0	0030.0	140.0	5.0	2.5		
	2000	TYKW	21	GRF	2355.0	0025.0	125.0	5.0	2.0		
07	208	VORO	44	NS	0000.0E		240.0D		9.0		
	410	LEAR	43	NS	0230.0	0245.8	490.0D	25.0			QL=6 ST=2 TYP=1
	221	ABST	44	NS	0600.0E	0707.2	180.0D	22.0			
	100	GORK	44	NS	0618.0E		342.0D		10.0		
	200	GORK	44	NS	0618.0E		342.0D		10.0		
	204	IZMI	44	NS	0700.0E		300.0D	20.0			
	127	TORN	44	NS	0730.0E	0835.0	410.0D	600.0	70.0		V=1
	260	ONDR	44	NS	0806.0E	0923.0	338.0D	54.0			
	245	SGMR	43	NS	1224.0	1903.8	501.0D	260.0			QL=6 ST=2 TYP=1
	100	HIRA	44	NS	2134.0E	0420.0	590.0D	230.0	120.0		MR
	200	HIRA	44	NS	2134.0E	0422.0	590.0D	120.0	60.0		MR
	245	LEAR	43	NS	2150.0	0134.6	771.0D	230.0			QL=6 ST=2 TYP=1
	410	LEAR	43	NS	2203.0	2316.6	758.0D	70.0			QL=6 ST=2 TYP=1
	3750	TYKW	21	GRF	0005.0	0055.0	150.0	8.0	4.0		
	3750	TYKW	20	GRF	0008.0	0016.0	40.0	6.0	3.0		
	2000	TYKW	45	C	0012.0	0013.0	2.0	17.0	2.0		
	1000	TYKW	5	S	0013.0	0015.0U	6.0	6.0U	2.0		INTERFERENCE
	9400	TYKW	5	S	0014.5	0015.5	4.0	27.0	8.0		
	2000	TYKW	45	C	0014.5	0015.8	3.5	173.0	7.0		
	100	HIRA	42	SER	0130.0	0130.5	8.7	500.0			SR
	2000	TYKW	5	S	0141.0	0141.2	3.0	4.0	1.5		
	3750	TYKW	45	C	0141.5	0143.4	7.5	4.0	1.5		
	3750	TYKW	45	C	0152.0	0155.3	11.0	5.0	1.5		
	3750	TYKW	5	S	0203.0	0203.8	2.0	1.5	.5		
	9400	TYKW	5	S	0208.0	0209.3	5.0	67.0	21.0		
	35000	NAGO	5	S	0208.0	0209.0	3.0	20.0			

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
07	15400	LEAR	47	GB	0208.6	0209.3	2.0	57.0			QL=6 ST=2 TYP=5
	8800	LEAR	47	GB	0208.8	0209.1	1.8	51.0			QL=5 ST=2 TYP=5
	9400	TYKW	30	PBI	0213.0		40.0	11.0	5.0		
	35000	NAGO	5	S	0218.0	0221.0	5.0	30.0			
	3750	TYKW	5	S	0219.0	0221.3	5.0	12.0	4.0		
	9400	TYKW	45	C	0219.5	0221.2	7.5	157.0	35.0		
	8800	LEAR	47	GB	0219.6	0221.1	6.0	139.0			QL=5 ST=2 TYP=5
	15400	LEAR	47	GB	0219.6	0221.1	6.9	169.0			QL=6 ST=2 TYP=5
	4995	LEAR	4	S/F	0220.1	0221.3	2.4	39.0			QL=6 ST=2 TYP=3
	9400	TYKW	30	PBI	0227.0		25.0	10.0	5.0		
	9400	TYKW	5	S	0228.0	0229.4	4.0	6.0	2.0		
	3750	TYKW	5	S	0229.0	0229.5	3.0	2.0	.7		
	2000	TYKW	21	GRF	0320.0	0415.0	200.0	3.0	1.5		
	17000	NOBE	1	S	0328.8	0329.3	2.0	16.0			0
	3750	TYKW	21	GRF	0330.0	0421.0	180.0	7.0	3.5		
	9400	TYKW	5	S	0338.5	0341.6	8.0	4.0	1.5		
	9400	TYKW	21	GRF	0354.0	0426.0	90.0	8.0	4.0		
	9400	TYKW	5	S	0402.0	0402.7	2.0	5.0	1.5		
	9395	PEKG	1	S	0402.0	0402.8	2.0	5.0	3.4		
	9400	TYKW	5	S	0405.5	0406.6	7.0	6.0	2.0		
	410	LEAR	8	S	0406.0	0406.6	.8	40.0			QL=6 ST=2 TYP=3
	245	LEAR	47	GB	0406.0	0406.6	.8	98.0			QL=6 ST=2 TYP=5
	9395	PEKG	1	S	0406.0	0406.7	5.0	8.1	2.9		
	2000	TYKW	5	S	0406.2	0406.7	1.5	1.5	.5		
	8800	LEAR	20	GRF	0412.6	0421.1	27.4	17.0			QL=5 ST=2 TYP=2
	3750	TYKW	5	S	0413.5	0414.1	1.5	4.0	1.5		
	9395	PEKG	3	S	0413.5	0414.1	1.5	13.1	3.9		
	9400	TYKW	5	S	0413.5	0414.2	1.5	4.0	1.5		
	2000	TYKW	21	GRF	0435.0	0515.0	120.0	3.0	1.5		
	3750	TYKW	5	S	0450.0	0451.6	8.0	6.0	2.0		
	3750	TYKW	21	GRF	0450.0	0505.0	95.0	4.0	2.0		
	9395	PEKG	1	S	0450.0	0451.7	5.0	6.7	5.7		
	610	LEAR	47	GB	0450.3	0450.6	.8	310.0			QL=6 ST=2 TYP=5
	9400	TYKW	5	S	0450.5	0451.6	3.5	6.0	2.0		
	410	LEAR	47	GB	0450.8	0450.8	.5	77.0			QL=6 ST=2 TYP=5
	245	LEAR	8	S	0450.8E	0451.0	.5D	11.0			QL=6 ST=2 TYP=3
	610	LEAR	4	S/F	0459.3	0501.3	3.0	13.0			QL=6 ST=2 TYP=3
	1415	LEAR	8	S	0500.3	0501.1	1.3	8.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0501.1	0501.6	1.2	25.0			QL=6 ST=2 TYP=3
	9400	TYKW	5	S	0504.0	0505.0	4.0	4.0	1.5		
	1415	LEAR	4	S/F	0535.3	0537.1	6.8	4.0			QL=6 ST=2 TYP=3
	3750	TYKW	5	S	0536.0	0537.9	6.0	8.0	5.0		
	9400	TYKW	5	S	0536.0	0538.0	10.0	7.0	3.0		
	4995	LEAR	4	S/F	0536.1	0537.3	10.2	10.0			QL=6 ST=2 TYP=3
	2695	LEAR	4	S/F	0536.1	0537.8	6.2	9.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0536.1	0537.8	9.0	11.0			QL=6 ST=2 TYP=3
	2000	TYKW	5	S	0537.0	0538.0	11.0	2.0	.7		
	9395	PEKG	1	S	0537.0	0537.8	7.0	9.4	7.6		
	15400	LEAR	20	GRF	0537.0	0540.6	5.1	8.0			QL=6 ST=2 TYP=2
	3750	TYKW	29	PBI	0542.0		15.0	4.0	2.0		
	8800	LEAR	4	S/F	0546.3	0547.3	3.0	7.0			QL=6 ST=2 TYP=3
	9400	TYKW	45	C	0546.5	0546.7	3.0	6.0	2.0		
	15400	LEAR	8	S	0546.6	0546.6	.4	18.0			QL=6 ST=2 TYP=3
	2000	TYKW	5	S	0550.0	0550.5	4.0	3.0	.7		
	9395	PEKG	3	S	0554.0	0555.6	4.5	12.5	4.2		
	9400	TYKW	5	S	0554.5	0555.6	3.5	13.0	3.0		
	15400	LEAR	4	S/F	0554.8	0555.5	3.3	28.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0554.8	0555.6	2.5	13.0			QL=6 ST=2 TYP=3
	17000	NOBE	1	S	0555.1	0555.8	2.0	33.0			R
	610	LEAR	8	S	0613.1	0613.3	.2	10.0			QL=6 ST=2 TYP=3
	2950	GORK	23	GRF	0649.7	0930.0	250.0D	38.0			
	4995	LEAR	8	S	0700.8	0700.8	.7	7.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	0700.8	0701.0	1.0	11.0			QL=6 ST=3 TYP=3
	6100	KISV	2	S/F	0700.9	0701.0	1.0	7.0			
	9100	GORK	22	GRF	0700.9	1027.5	266.0D	32.0			
	204	IZMI	5	S	0702.8	0703.0	1.5	480.0	250.0		
	1415	LEAR	8	S	0703.5	0703.8	.8	8.0			QL=6 ST=2 TYP=3
	2950	GORK	1	S	0710.7	0710.8	.2	11.5			
	113	POTS	4	S/F	0725.2	0725.3	.2	700.0	140.0		
	6100	KISV	2	S/F	0725.2	0725.5	1.5	5.0			
	2950	GORK	2	S/F	0725.2	0725.6	1.8	7.7			

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
07	6100	KISV	2	S/F	0734.2	0736.1	8.0	6.0			
	6100	KISV	22	GRF	0754.5	0800.4	20.0	6.0			
	430	KRAK	42	SER	0800.0E	0844.0	321.0D	190.0			
	15400	LEAR	4	S/F	0804.8	0805.8	6.5	18.0			QL=6 ST=2 TYP=3
	100	GORK	41	F	0809.0	0809.7	27.9	1350.0			
	100	GORK			0809.0	0827.0		1350.0			
	4995	LEAR	8	S	0809.1	0809.6	1.2	5.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	0809.3	0809.6	1.2	13.0			QL=6 ST=2 TYP=3
	6100	KISV	2	S/F	0809.3	0809.7	1.0	6.0			
	113	POTS	4	S/F	0809.3	0809.8	1.2	1800.0	300.0		III
	2950	GORK	1	S	0810.7	0810.8	.2	6.4			
	113	POTS	4	S/F	0826.5	0826.9	1.2	1700.0	250.0		III
	6100	KISV	2	S/F	0826.9	0827.1	1.0	4.0			
	810	KRAK	8	S	0844.0	0844.0	.2	27.0			
	950	GORK	23	GRF	0845.0	0951.0	127.0	13.0			
	15400	LEAR	8	S	0857.8	0858.1	.7	24.0			QL=6 ST=2 TYP=3
	650	GORK	22	GRF	0858.2		62.2	2.5			
	950	GORK	46	C	0859.0	0900.0	5.2	19.0			
	950	GORK			0859.0	0902.4		34.0			
	930	BORD	46	C	0859.0	0902.5	7.0	74.0	25.0		
	810	KRAK	45	C	0859.0	0902.5	8.0	23.0	15.0		
	810	KRAK			0859.0	0903.7		23.0			
	3100	CRIM	20	GRF	0859.5	0927.5	121.0	26.0	9.0		
	650	GORK	40	F	0859.6	0906.0	9.5	22.0			
	1470	POTS	21	GRF	0900.0	0945.5	116.0	23.0			
	610	LEAR	4	S/F	0901.8	0905.8	8.2	36.0			QL=6 ST=2 TYP=3
	100	GORK	4	S/F	0903.5	0904.8	4.0	1170.0			
	113	POTS	4	S/F	0913.7	0914.0	2.3	800.0	200.0		III
	3000	POTS	21	GRF	0916.0	1035.0	119.0	45.0			
	9500	POTS	20	GRF	0920.0	1034.8	130.0	29.0			
	245	LEAR	47	GB	0920.5	0923.1	4.8	169.0			QL=6 ST=2 TYP=5
	113	POTS	41	F	0921.7	0921.9	1.9	1200.0	40.0		III
	100	GORK	4	S/F	0921.8E	0922.0	1.2D	10900.0			
	200	GORK	4	S/F	0921.9	0923.0	2.7	300.0			
	204	IZMI	41	F	0922.0	0923.0	3.0	110.0			
	234	POTS	4	S/F	0922.1	0923.2	1.2	200.0	10.0		III
	6100	KISV	1	S	0922.5	0922.6	.5	3.0			
	204	IZMI	4	S/F	0935.0	0935.5	.8	170.0	130.0		
	950	GORK	2	S/F	0943.4	0945.8	4.4	9.6			
	810	KRAK	27	RF	0943.5		13.5	6.0	4.0		
	6100	KISV	21	GRF	0952.0	1030.0	90.0	15.0			
	930	BORD	8	S	1104.4	1104.5	.1	20.0	1.0		
	650	GORK	8	S	1105.6	1105.8	.4	15.0			
	810	KRAK	8	S	1141.5	1141.5	.2	33.0			
	9400	HUAN	22	GRF	1200.6	1207.5	22.0	7.0	2.9		0
	930	BORD	41	F	1300.6	1300.8	1.2	28.0	2.0		
	9400	HUAN	1	S	1300.6	1301.6	2.0	5.6	2.5		0
	1470	POTS	4	S/F	1301.0	1301.2	1.5	24.0			
	810	KRAK	42	SER	1301.0	1301.8	1.0	25.0			
	9500	POTS	20	GRF	1317.0	1319.7	18.0	30.0			
	9400	HUAN	4	S/F	1317.1	1319.3	8.5	36.1	22.0		L
	8800	SGMR	47	GB	1317.3	1320.0	14.0	58.0			QL=6 ST=2 TYP=5
	4995	SGMR	4	S/F	1318.5	1319.1	5.0	20.0			QL=6 ST=2 TYP=3
	15400	SGMR	47	GB	1318.6	1320.8	4.0	69.0			QL=1 ST=2 TYP=5
	9400	HUAN	29	PBI	1325.6	1325.6	23.9	19.5	4.4		L
	9400	HUAN	4	S/F	1401.8	1403.1	3.8	27.8	10.3		0
	930	BORD	41	F	1413.0	1413.4	1.0	44.0	2.0		
	2695	SGMR	4	S/F	1416.6	1417.5	2.5	11.0			QL=6 ST=2 TYP=3
	9400	HUAN	2	S/F	1416.7	1417.4	3.0	11.1	7.3		R
	4995	SGMR	4	S/F	1416.8	1417.5	2.5	20.0			QL=6 ST=2 TYP=3
	2800	OTTA	21	GRF	1420.0	1440.0	85.0	6.0			
	2800	OTTA	40	F	1423.0	1427.0	8.0	4.4			
	9400	HUAN	2	S/F	1428.7	1429.4	2.1	7.0	5.0		0
	9400	HUAN	23	GRF	1444.6	1512.2	50.4	12.5	3.2		0
	9400	HUAN	1	S	1504.2	1505.5	3.0	5.6	2.8		0
	410	SGMR	47	GB	1507.5	1507.6	.5	62.0			QL=6 ST=2 TYP=5
	930	BORD	45	C	1510.0	1510.4	.8	109.0	10.0		
	610	SGMR	47	GB	1510.1	1510.3	.5	74.0			QL=6 ST=2 TYP=5
	1415	SGMR	47	GB	1510.1	1510.3	.5	119.0			QL=6 ST=2 TYP=5
	4995	SGMR	47	GB	1510.1	1510.3	.5	61.0			QL=6 ST=2 TYP=5
	2695	SGMR	47	GB	1510.1	1510.3	.7	86.0			QL=6 ST=2 TYP=5

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
07	8800	SGMR	47	GB	1510.1	1510.3	.9	50.0			QL=5 ST=2 TYP=5
	9400	HUAN	8	S	1510.1	1510.3	1.0	48.6	16.3		0
	2800	OTTA	20	GRF	1550.0	1555.0	30.0	5.2	2.6		
	9400	HUAN	20	GRF	1609.2	1619.8	19.0	8.3	5.8		0
	9400	HUAN	23	GRF	1633.9	1654.0	45.0	19.5	11.1		0
	9400	HUAN	4	S/F	1639.3	1643.6	5.5	22.2	15.0		0
	9400	HUAN	2	S/F	1647.2	1647.5	1.4	9.7	3.0		0
	9400	HUAN	1	S	1650.1	1651.0	2.6	9.0	4.7		0
	9400	HUAN	1	S	1748.5	1748.8	1.7	9.7	3.6		0
	2800	OTTA	4	S/F	1748.5	1749.0	3.0	18.2	7.0		
	610	SGMR	49	GB	1748.6	1748.8	.7	590.0			QL=6 ST=2 TYP=6
	1415	SGMR	47	GB	1748.6	1748.8	1.5	180.0			QL=6 ST=2 TYP=5
	4995	SGMR	8	S	1748.6	1748.8	.7	20.0			QL=6 ST=2 TYP=3
	2695	SGMR	8	S	1748.6	1749.0	1.5	30.0			QL=6 ST=2 TYP=3
	410	SGMR	8	S	1749.6	1749.8	.9	29.0			QL=6 ST=2 TYP=3
	9400	HUAN	2	S/F	1755.9	1757.2	2.6	7.0	1.6		0
	2800	OTTA	20	GRF	1800.0	1808.0	80.0	8.6	4.0		
	9400	HUAN	3	S	1805.3	1810.2	6.5	65.3	28.6		L
	9400	HUAN	29	PBI	1811.8	1811.8	27.2	20.8	8.0		L
	9400	HUAN	20	GRF	1843.2	1849.4	14.8	8.3	4.3		0
	9400	HUAN	4	S/F	2200.3	2200.7	6.9	12.5	3.6		0
	245	LEAR	47	GB	2202.6	2202.8	.4	150.0			QL=6 ST=2 TYP=5
	410	LEAR	47	GB	2202.6	2202.8	1.7	90.0			QL=6 ST=2 TYP=5
	610	LEAR	49	GB	2202.6	2205.1	3.9	1399.0			QL=6 ST=2 TYP=6
	100	HIRA	46	C	2221.5	2222.7	1.3	2400.0	546.0		MR
	200	HIRA	46	C	2236.3	2238.6	4.0	190.0	47.0		WL
	1000	TYKW	45	C	2238.0	2241.3	10.0	82.0	5.0		
	1000	TYKW			2238.0	2246.3		40.0			
	610	LEAR	47	GB	2242.8	2246.0	4.2	300.0			QL=6 ST=2 TYP=5
	500	HIRA	7	C	2245.6	2246.8	1.7	20.0	6.0		AR
	100	HIRA	46	C	2258.1	2258.5	1.8	2100.0	830.0		0
	245	LEAR	47	GB	2258.8	2259.0	3.8	69.0			QL=6 ST=2 TYP=5
	1000	TYKW	45	C	2300.0	2303.1	3.5	182.0	45.0		
	610	LEAR	49	GB	2300.5	2300.8	3.0	3000.0			QL=6 ST=2 TYP=6
	500	HIRA	7	C	2300.5	2302.6	2.6	17.0	6.0		SR
	9400	TYKW	45	C	2301.0	2302.7	4.0	8.0	3.0		
	2000	TYKW	45	C	2301.0	2302.7	2.5	3.0	1.0		
	3750	TYKW	45	C	2301.0	2303.7	4.0	7.0	2.0		
	1415	LEAR	8	S	2301.6	2302.3	1.0	26.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	2302.8	2302.8	.3	17.0			QL=6 ST=2 TYP=3
	1000	TYKW	5	S	2303.8	2304.0	.5	23.0	5.0		
	1000	TYKW	45	C	2304.5	2306.0	4.0	29.0	6.0		
	200	HIRA	46	C	2304.6	2305.2	1.0	310.0	80.0		0
	2000	TYKW	5	S	2305.0	2305.8	2.0	12.0	3.0		
	245	LEAR	47	GB	2305.1	2305.6	1.0	180.0			QL=6 ST=2 TYP=5
	1415	LEAR	47	GB	2305.3	2305.8	1.0	58.0			QL=6 ST=2 TYP=5
	410	LEAR	8	S	2305.8	2306.1	.3	18.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	2314.8	2316.5	1.8	20.0			QL=6 ST=2 TYP=3
	3750	TYKW	28	PRE	2315.0	2336.7	22.0	26.0	9.0		
	1415	LEAR	47	GB	2315.6	2316.0	.5	95.0			QL=6 ST=2 TYP=5
	410	LEAR	47	GB	2315.6	2316.0	.5	110.0			QL=6 ST=2 TYP=5
	610	LEAR	8	S	2315.6	2316.0	1.2	20.0			QL=6 ST=2 TYP=3
	1000	TYKW	5	S	2315.7	2316.0	.6	177.0	30.0		
	410	LEAR	47	GB	2315.8	2315.8	.3	100.0			QL=6 ST=2 TYP=5
	2000	TYKW	28	PRE	2320.0	2337.0	17.0	21.0	10.0		
	9400	TYKW	28	PRE	2324.0	2336.6	13.0	30.0	12.0		
	1000	TYKW	28	PRE	2325.0	2337.0	12.0	4.0	2.0		
	2000	TYKW	47	GB	2337.0	0000.1	83.0	2350.0	820.0		
	3750	TYKW	47	GB	2337.0	0000.7	90.0	8200.0	2100.0		
	2000	TYKW			2337.0	2341.6		2330.0			
	1000	TYKW	47	GB	2337.0	2342.5	73.0	1880.0	330.0		
	9400	TYKW	47	GB	2337.0	2358.8	93.0	24700.0	4800.0		
	500	HIRA			2337.4	0002.9		1600.0			WL
	500	HIRA	48	C	2337.4	0018.8	69.0	2900.0	500.0		WR
	500	HIRA			2337.4	2342.7		1000.0			0
	17000	NOBE	49	GB	2337.8	2358.6	75.0	19200.0			L
	35000	NAGO	49	GB	2339.0	2344.0	247.0	5000.0D			
	200	HIRA	48	C	2340.4	2344.7	56.0	70000.0	810.0		0
	200	HIRA			2340.4	2348.6		3400.0			WR
	200	HIRA			2340.4	2357.7		1100.0			0
	100	HIRA	48	C	2343.5		51.0	10000.0D	1850.0D		

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
07	100	HIRA			2343.5	2359.5		9100.0			WL
08	208	VORO	44	NS	0000.0E		240.0D		40.0		
	221	ABST	44	NS	0600.0E	0706.2	180.0D	15.0			
	100	GORK	44	NS	0612.0E		344.0D		5.0		
	200	GORK	44	NS	0615.0E		341.0D		35.0		
	204	IZMI	44	NS	0700.0E		300.0D	60.0			
	127	TORN	44	NS	0730.0E	0834.0	410.0D	2300.0	51.0		V=1
	260	ONDR	44	NS	0820.0E	0838.0	340.0D	195.0D			
	29	UPIC	43	NS	0837.7		265.3D				
	33	UPIC	43	NS	0838.0		265.0D				
	15400	SGMR	43	NS	1437.5	1438.1	26.0	370.0			QL=6 ST=2 TYP=1
	200	HIRA	44	NS	2135.0E	0539.0	590.0D	30.0	20.0		0
	245	LEAR	43	NS	2151.0	0704.3	770.0D	260.0			QL=6 ST=2 TYP=1
	200	HIRA	46	C	0039.0	0040.0	1.7	315.0	70.0		MR
	1000	TYKW	30	PBI	0050.0		260.0	10.0	4.0		
	17000	NOBE	29	PBI	0052.8	0052.8	40.0	63.0			0
	1000	TYKW	5	S	0058.0	0059.8	4.0	2.0	.7		
	2000	TYKW	30	PBI	0100.0		260.0	18.0	8.0		
	1000	TYKW	45	C	0102.5	0103.3	4.0	61.0	15.0		
	500	HIRA	42	SER	0106.6	0107.2	10.0	6.0			0
	3750	TYKW	30	PBI	0107.0		280.0	50.0	20.0		
	9400	TYKW	30	PBI	0110.0		260.0	65.0	24.0		
	1000	TYKW	45	C	0119.0	0119.6	1.5U	95.0	15.0		INTERFERENCE
	500	HIRA	42	SER	0119.1	0121.1	4.0	8.0			SR
	100	HIRA	7	C	0119.2	0119.5	5.0	4500.0	480.0		0
	500	HIRA	5	S	0132.6	0134.4	5.3	6.0	3.0		0
	100	HIRA	8	S	0134.5	0135.0	.8	1600.0			WL
	9400	TYKW	5	S	0155.0	0156.0	4.0	4.0	1.5		
	1000	TYKW	45	C	0157.0	0158.0	2.5	5.0	1.0		
	9400	TYKW	5	S	0200.0	0200.6	2.0	10.0	3.0		
	9400	TYKW	5	S	0203.0	0204.4	3.0	19.0	9.0		
	3750	TYKW	45	C	0203.0	0204.5	7.0	11.0	5.0		
	17000	NOBE	1	S	0203.2	0204.3	9.0	32.0			R
	2000	TYKW	5	S	0203.5	0204.4	1.5	180.0	30.0		
	1000	TYKW	45	C	0205.0	0207.5	3.5	340.0	60.0		
	610	LEAR	49	GB	0205.3	0206.1	3.2	160.0			QL=6 ST=2 TYP=6
	9400	TYKW	30	PBI	0206.0		10.0	8.0	4.0		
	500	HIRA	3	S	0206.6	0207.0	1.0	40.0	15.0		SR
	410	LEAR	8	S	0207.1	0207.1	1.4	39.0			QL=6 ST=2 TYP=3
	9400	TYKW	5	S	0207.5	0207.7	2.0	9.0	3.0		
	1000	TYKW	8	S	0209.2	0209.3	.4	80.0	20.0		
	3750	TYKW	30	PBI	0210.0		25.0	3.0	1.5		
	3750	TYKW	5	S	0218.0	0220.3	9.0	40.0	9.0		
	9395	PEKG	3	S	0218.0	0220.3	7.0	31.4	13.1		
	17000	NOBE	1	S	0218.9	0220.1	6.5	36.0			0
	9400	TYKW	5	S	0219.0	0220.2	6.0	56.0	13.0		
	2840	PEKG	3	S	0219.0	0220.4	7.0	26.7	10.0		
	2000	TYKW	5	S	0219.5	0220.7	7.0	5.0	2.0		
	100	HIRA	46	C	0227.1		5.6	10000.0D	1180.0D		
	2000	TYKW	45	C	0228.0	0229.8	5.0	13.0	3.0		
	3750	TYKW	45	C	0228.0	0230.8	5.0	33.0	6.0		
	1000	TYKW	45	C	0228.0	0231.5	5.5	280.0	43.0		
	2840	PEKG	45	C	0228.0	0229.8	5.0	27.8	5.8		
	9400	TYKW	45	C	0228.5	0229.7	6.5	59.0	10.0		
	9400	TYKW			0228.5	0231.5		46.0			
	9395	PEKG	45	C	0229.0	0229.8	7.0	60.3	15.1		
	500	HIRA	46	C	0229.2	0231.4	3.0	75.0	15.0		SR
	200	HIRA	42	SER	0229.4	0229.6	2.7	1900.0			WR
	610	LEAR	49	GB	0229.5	0231.6	3.6	1699.0			QL=6 ST=2 TYP=6
	17000	NOBE	1	S	0229.6		4.0				
	245	LEAR	49	GB	0230.8	0231.3	1.3	740.0			QL=6 ST=2 TYP=6
	3750	TYKW	28	PRE	0239.0	0246.0	10.0	4.0	2.5		
	17000	NOBE	7	C	0242.3	0249.8	31.3	117.0			R
	17000	NOBE			0242.3	0306.5		32.0			R
	9400	TYKW			0243.0	0250.3		98.0			
	9400	TYKW	45	C	0243.0	0307.0U	40.0	118.0D	50.0D		
	9395	PEKG	45	C	0246.0	0306.7	26.0	201.0	93.8		
	15400	LEAR	47	GB	0248.3	0249.8	39.3	110.0			QL=6 ST=2 TYP=5
	3750	TYKW			0249.0	0251.1		32.0			
	3750	TYKW	45	C	0249.0	0306.5	30.0	52.0	20.0D		

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
08	35000	NAGO	5	S	0249.0	0250.0	2.0	15.0			
	2840	PEKG	45	C	0249.0	0306.3	21.0	55.0	30.9		
	1000	TYKW	45	C	0249.3	0249.5	.7	42.0	5.0		
	610	LEAR	8	S	0249.3	0249.6	.3	50.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0249.3	0250.1	9.0	49.0			QL=5 ST=2 TYP=3
	4995	LEAR	4	S/F	0249.8	0250.8	2.8	29.0			QL=6 ST=2 TYP=3
	2000	TYKW	45	C	0250.0	0251.0	5.0	41.0	8.0		
	2000	TYKW	30	PBI	0255.0		90.0	4.0	2.0		
	2000	TYKW	20	GRF	0302.0	0305.0U	40.0	4.0D	2.0D		
	1000	TYKW	45	C	0305.0	0306.5	5.0	5.0	1.0		
	1000	TYKW	21	GRF	0305.0	0322.0	40.0	4.0	2.0		
	2695	LEAR	8	S	0306.1	0306.1	.7	29.0			QL=6 ST=2 TYP=3
	2840	PEKG	29	PBI	0310.0		17.0	18.3	8.5		
	9395	PEKG	29	PBI	0312.0		30.0	113.4	90.0		
	245	LEAR	47	GB	0312.8	0313.0	.3	340.0			QL=6 ST=2 TYP=5
	410	LEAR	47	GB	0312.8	0313.1	.5	87.0			QL=6 ST=2 TYP=5
	1000	TYKW	45	C	0313.0	0313.2	4.0	5.0	1.5		
	17000	NOBE	29	PBI	0313.6	0313.6	41.0	32.0			R
	3750	TYKW	30	PBI	0319.0		70.0	18.0	8.0		
	9400	TYKW	29	PBI	0323.0		60.0	36.0	16.0		
	3750	TYKW	45	C	0327.0	0328.0	5.0	3.0	1.5		
	245	LEAR	47	GB	0331.3	0333.1	2.3	180.0			QL=6 ST=2 TYP=5
	610	LEAR	47	GB	0331.6	0333.0	2.7	60.0			QL=6 ST=2 TYP=5
	200	HIRA	8	S	0331.7	0331.8	.7	640.0			O
	1000	TYKW	45	C	0332.0	0332.8	2.5	14.0	3.0		
	2000	TYKW	5	S	0356.0	0357.0	6.0	1.5	.7		
	3750	TYKW	5	S	0356.0	0358.0	9.0	3.0	1.0		
	1000	TYKW	45	C	0357.5	0359.6	4.0	91.0	19.0		
	610	LEAR	47	GB	0358.6	0359.0	1.9	119.0			QL=6 ST=2 TYP=5
	1000	TYKW	8	S	0402.7	0402.8	.3	22.0	5.0		
	1000	TYKW	8	S	0420.5	0420.6	.2	17.0	4.0		
	100	HIRA	42	SER	0421.2	0421.7	9.7	4800.0			WR
	3750	TYKW	45	C	0421.5	0421.9	2.5	6.0	1.5		
	1000	TYKW	45	C	0421.5	0423.0	3.5	220.0	12.0		
	1000	TYKW	45	C	0425.5	0426.3	3.0	160.0	14.0		
	1000	TYKW	45	C	0430.2	0430.6	1.5	195.0	45.0		
	610	LEAR	8	S	0430.3	0430.6	1.0	40.0			QL=6 ST=2 TYP=3
	9400	TYKW	21	GRF	0434.0	0443.0	55.0	9.0	4.0		
	3750	TYKW	20	GRF	0436.0	0459.0	55.0	6.0	3.0		
	9400	TYKW	5	S	0445.0	0446.6	5.0	6.0	2.0		
	1000	TYKW	45	C	0500.5	0501.0	2.0	27.0	4.0		
	1000	TYKW	5	S	0506.0	0506.2	.6	9.0	1.5		
	610	LEAR	47	GB	0541.3	0541.5	.8	96.0			QL=6 ST=2 TYP=5
	1000	TYKW	45	C	0541.5	0541.7	1.0	114.0	15.0		
	3750	TYKW	5	S	0542.5	0543.3	2.0	3.0	1.0		
	1000	TYKW	45	C	0546.0	0547.0	3.0	63.0	16.0		
	610	LEAR	47	GB	0546.3	0547.1	1.8	189.0			QL=6 ST=2 TYP=5
	1000	TYKW	45	C	0559.0	0559.8	1.0D	16.0	10.0D		
	610	LEAR	8	S	0559.3	0559.8	1.7	19.0			QL=6 ST=2 TYP=3
	950	GORK	41	F	0611.7	0613.2	11.1	26.0			
	950	GORK			0611.7	0617.1		25.0			
	950	GORK			0611.7	0621.2		23.0			
	1000	TYKW	45	C	0612.5	0613.3	2.0	36.0	6.0		
	650	GORK	41	F	0612.5	0613.3	10.5	29.0			
	650	GORK			0612.5	0617.2		40.0			
	650	GORK			0612.5	0622.3		10.0			
	1000	TYKW	5	S	0614.5	0614.8	.9	4.0	1.0		
	1000	TYKW	45	C	0615.4	0615.6	.5	18.0	4.0		
	2695	LEAR	8	S	0615.8	0616.8	1.5	25.0			QL=6 ST=2 TYP=3
	610	LEAR	8	S	0615.8	0616.8	1.5	25.0			QL=6 ST=3 TYP=3
	1000	TYKW	45	C	0616.5	0617.1	1.0	70.0	10.0		
	1000	TYKW	45	C	0622.0	0622.3	1.5	13.0	2.0		
	610	LEAR	4	S/F	0622.0	0622.1	3.8	8.0			QL=6 ST=2 TYP=3
	2950	GORK	22	GRF	0708.0	0837.0	256.0D	12.7			
	9100	GORK	23	GRF	0742.0	0831.5	228.0D	63.0			
	245	LEAR	47	GB	0755.8E	0756.0	.3D	65.0			QL=6 ST=2 TYP=5
	610	LEAR	8	S	0755.8	0756.0	.3	18.0			QL=6 ST=2 TYP=3
	2695	LEAR	8	S	0817.8	0818.0	.3	30.0			QL=3 ST=2 TYP=3
	6100	KISV	28	PRE	0818.5	0826.5	8.0	5.0			
	4995	ATHN	47	GB	0824.5	0825.0	24.5	62.0			QL=2 ST=3 TYP=5
	9500	POTS	20	GRF	0825.0	0834.0	30.0	45.0			

SOLAR RADIO EMISSION
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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
08	6100	KISV	45	C	0826.5	0835.0	11.0	33.0			
	15400	LEAR	47	GB	0826.8	0828.3	14.0	46.0			QL=6 ST=2 TYP=5
	8800	LEAR	47	GB	0827.0	0830.1	16.1	50.0			QL=6 ST=2 TYP=5
	8800	ATHN	4	S/F	0827.8	0835.0	13.5	49.0			QL=6 ST=3 TYP=3
	4995	LEAR	4	S/F	0828.0	0830.1	16.0	23.0			QL=6 ST=2 TYP=3
	1470	POTS	42	SER	0828.8	0829.6	11.0	134.0			
	1415	ATHN	47	GB	0829.0	0833.6	20.0	63.0			QL=6 ST=3 TYP=5
	9100	GORK	2	S/F	0832.5	0834.6	4.6	28.0			
	1415	LEAR	47	GB	0833.1	0833.3	.7	69.0			QL=6 ST=2 TYP=5
	6100	KISV	29	PBI	0837.5	0837.5	18.0	24.0			
	100	GORK	8	S	0837.8	0838.4	1.5	1380.0			
	410	LEAR	47	GB	0838.0	0838.1	.5	219.0			QL=6 ST=2 TYP=5
	245	LEAR	49	GB	0838.1	0838.1	.5	800.0			QL=6 ST=2 TYP=6
	204	IZMI	5	S	0838.5	0838.7	1.0	1000.0	400.0		
	650	GORK	4	S/F	0858.5	0858.8	.6	42.0			
	610	LEAR	47	GB	0858.6	0858.8	.4	55.0			QL=6 ST=2 TYP=5
	930	BORD	45	C	0901.4	0902.0	.8	125.0	8.0		
	950	GORK	3	S	0901.7	0902.0	.6	61.0			
	4995	LEAR	8	S	0901.8	0902.1	.8	20.0			QL=6 ST=2 TYP=3
	610	LEAR	47	GB	0901.8	0902.1	.5	110.0			QL=6 ST=2 TYP=5
	15400	LEAR	8	S	0901.8	0902.1	1.0	42.0			QL=6 ST=2 TYP=3
	2695	LEAR	8	S	0901.8	0902.1	.7	17.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	0901.8	0902.1	1.0	20.0			QL=6 ST=2 TYP=3
	1415	LEAR	8	S	0901.8	0902.1	.5	10.0			QL=6 ST=2 TYP=3
	930	BORD	8	S	0912.9	0913.0	.3	15.0	2.0		
	930	BORD	46	C	0918.0	0918.8	1.1	20.0	4.0		
	650	GORK	4	S/F	0918.3	0918.8	1.1	11.5			
	950	GORK	2	S/F	0918.3	0918.8	.8	7.0			
	610	LEAR	8	S	0918.5	0918.8	.8	17.0			QL=6 ST=2 TYP=3
	430	KRAK	42	SER	0927.0	0956.0	179.0	150.0			
	930	BORD	42	SER	0931.0	0940.8	12.0	138.0	3.0		
	810	KRAK	42	SER	0931.5	0941.0	26.5	116.0			
	536	ONDR	42	SER	0932.0	1001.5	29.5	31.0			
	113	POTS	42	SER	0933.6	0938.5	5.8	3500.0	100.0		III
	234	POTS	42	SER	0933.7	0938.3	5.3	500.0	20.0		III
	650	GORK	40	F	0936.6	0937.2	1.7	6.0			
	950	GORK	2	S/F	0936.6	0937.7	1.1U	7.0			
	808	ONDR	42	SER	0937.0	0941.0	6.0	25.0			
	610	LEAR	47	GB	0939.1	0939.1	.5	380.0			QL=6 ST=2 TYP=5
	8800	LEAR	8	S	0939.1	0939.3	.4	21.0			QL=6 ST=2 TYP=3
	610	LEAR	8	S	0951.8	0951.8	.2	40.0			QL=6 ST=2 TYP=3
	650	GORK	40	F	0951.8	0953.4	4.0	41.0			
	930	BORD	41	F	0953.0	0953.6	1.0	73.0	2.0		
	610	LEAR	8	S	0953.3	0953.3	.2	42.0			QL=6 ST=2 TYP=3
	950	GORK	1	S	0953.3	0953.6	.5	4.0			
	610	LEAR	8	S	0955.3	0955.5	.3	15.0			QL=6 ST=2 TYP=3
	410	LEAR	47	GB	0955.5E	0955.6	.1D	100.0			QL=6 ST=2 TYP=5
	650	GORK	46	C	1000.1E	1000.6	1.3D	11.0			
	650	GORK			1000.1E	1001.3		20.0			
	650	GORK			1000.1E	1001.3		20.0			
	930	BORD	8	S	1001.4	1001.4	.1	16.0	1.0		
	536	ONDR	42	SER	1009.0	1009.0	21.0	7.0			
	808	ONDR	8	S	1010.0	1010.5	1.6	52.0			
	950	GORK	3	S	1010.3	1010.8	.8	61.0			
	930	BORD	46	C	1010.4	1010.9	.7	163.0	8.0		
	650	GORK	4	S/F	1010.5	1010.9	.5	23.0			
	810	KRAK	8	S	1010.7	1011.0	.5	110.0			
	650	GORK	2	S/F	1018.9	1019.0	.4	8.0			
	930	BORD	41	F	1028.0	1028.1	.3	14.0	1.0		
	100	GORK	4	S/F	1034.9	1037.7	3.4	1730.0			
	810	KRAK	42	SER	1047.0	1100.2	13.5	28.0			
	536	ONDR	46	C	1050.0	1100.0	17.0	14.0	7.0		
	650	GORK	23	GRF	1050.9		20.1	8.0			
	950	GORK	23	GRF	1051.9	1103.0	17.3	10.0			
	808	ONDR	28	PRE	1052.0	1100.0	12.0	6.0	5.0		
	1470	POTS	22	GRF	1052.0	1100.6	61.0	79.0			
	930	BORD	46	C	1052.0	1102.3	18.0	138.0	9.0		
	650	GORK	8	S	1054.9	1055.0	.2	32.0			
	3000	POTS	20	GRF	1055.0	1102.5	45.0	13.0			
	1415	ATHN	47	GB	1058.0	1100.0	33.6	130.0			QL=6 ST=3 TYP=5
	950	GORK	4	S/F	1059.2	1101.5	3.8	80.0			

SOLAR RADIO EMISSION
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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
08	650	GORK	46	C	1059.5E	1100.1	2.8D				
	650	GORK			1059.5	1101.9					
	808	ONDR	46	C	1100.0	1105.0	5.0		20.0		
	6100	KISV	45	C	1104.5	1113.1	15.5	50.0			
	808	ONDR	29	PBI	1105.0	1109.0	7.0	6.0	5.0		
	4995	ATHN	4	S/F	1106.3	1112.8	25.3	43.0			QL=2 ST=3 TYP=3
	9500	POTS	20	GRF	1106.5	1112.7	34.0	65.0			
	536	ONDR	42	SER	1107.0	1110.0	12.0	14.0			
	9400	HUAN	45	C	1107.1	1112.9	17.7	74.8	46.2		R
	8800	ATHN	47	GB	1108.8	1112.8	22.8	52.0			QL=6 ST=3 TYP=5
	9100	GORK			1109.3	1113.1		36.0			
	9100	GORK	45	C	1109.8	1110.2	4.8	30.0			
	234	POTS	4	S/F	1115.6	1115.8	.4	165.0	25.0		
	6100	KISV	29	PBI	1120.0	1120.0	38.0	28.0			
	9400	HUAN	29	PBI	1124.8	1124.8	32.1	27.1	3.0		R
	234	POTS	4	S/F	1154.3	1154.5	.5	200.0	20.0		
	234	POTS	4	S/F	1209.1	1209.2	.3	330.0	65.0		
	536	ONDR	8	S	1211.5	1211.5	.1	13.0			
	536	ONDR	45	C	1215.5	1215.6	1.5	26.0			
	536	ONDR	45	C	1233.0	1233.5	1.5	10.0			
	127	TORN	8	S	1256.3	1257.2	1.5	2800.0	1400.0		
	810	KRAK	42	SER	1302.7	1303.5	1.5	52.0			
	930	BORD	46	C	1303.0	1303.7	1.0	21.0	3.0		
	3100	BERN	47	GB	1323.0	1445.0U	90.0D	1100.0D			
	5200	BERN	47	GB	1323.0	1445.7	90.0D	1432.0			
	8400	BERN	47	GB	1323.0	1445.7	90.0D	1209.0			
	2695	ATHN	47	GB	1324.6	1338.6	47.4	150.0			QL=2 ST=3 TYP=5
	4995	ATHN	49	GB	1324.6	1338.6	47.4	360.0			QL=2 ST=3 TYP=6
	3000	POTS	47	GB	1325.0	1333.3	70.0	1710.0			
	2800	OTTA	47	GB	1326.0	1447.0	124.0	2280.0			
	9500	POTS	47	GB	1326.5	1349.0	69.0	403.0			
	1470	POTS	47	GB	1326.7	1352.0	68.0	1335.0			
	1415	ATHN	49	GB	1327.0	1339.5	45.0	930.0			QL=6 ST=3 TYP=6
	9400	HUAN	47	GB	1328.9E	1445.3	108.7D	2482.0	986.0		R
	2650	DWIN	47	GB	1330.0						SUNSET
	8800	ATHN	47	GB	1331.3	1338.6	40.7	290.0			QL=6 ST=3 TYP=5
	8800	SGMR	49	GB	1335.6	1338.5	14.5	470.0			QL=6 ST=2 TYP=6
	15400	SGMR	47	GB	1335.6	1338.5	14.5	330.0			QL=6 ST=2 TYP=5
	1415	SGMR	49	GB	1335.6	1339.6	14.5	1699.0			QL=6 ST=2 TYP=6
	4995	SGMR	49	GB	1336.1	1338.5	14.0	300.0			QL=6 ST=2 TYP=6
	2695	SGMR	47	GB	1336.5	1338.6	13.6	139.0			QL=6 ST=2 TYP=5
	930	BORD	45	C	1337.0	1351.6	133.0	1050.0	200.0		
	930	BORD			1337.0	1450.0		625.0			
	810	KRAK	48	C	1342.0	1348.5	21.5D	210.0	60.0		
	810	KRAK			1342.0	1352.3		250.0			
	610	SGMR	49	GB	1344.3	1346.1	5.8	64.0			QL=6 ST=2 TYP=6
	430	KRAK	48	C	1345.5	1352.5	12.5	500.0	160.0		
	430	KRAK			1345.5	1356.8		400.0			
	245	SGMR	8	S	1347.3	1347.8	1.0	24.0			QL=6 ST=2 TYP=3
	410	SGMR	47	GB	1347.8	1349.6	2.3	77.0			QL=6 ST=2 TYP=5
	2695	SGMR	47	GB	1350.1	1350.1	22.0	330.0			QL=6 ST=2 TYP=5
	410	SGMR	47	GB	1350.1	1351.3	22.0	119.0			QL=6 ST=2 TYP=5
	1415	SGMR	49	GB	1350.1	1351.3	22.0	1899.0			QL=6 ST=2 TYP=6
	610	SGMR	49	GB	1350.1	1351.8	22.0	990.0			QL=6 ST=2 TYP=6
	15400	SGMR	47	GB	1350.1	1352.1	22.0	310.0			QL=6 ST=2 TYP=5
	4995	SGMR	49	GB	1350.1	1352.3	22.0	620.0			QL=6 ST=2 TYP=6
	8800	SGMR	49	GB	1350.1	1352.3	22.0	520.0			QL=6 ST=2 TYP=6
	245	SGMR	4	S/F	1400.8	1402.8	2.2	24.0			QL=6 ST=2 TYP=3
	245	SGMR	47	GB	1412.1	1413.8	13.0	77.0			QL=6 ST=2 TYP=5
	410	SGMR	47	GB	1412.1	1414.1	13.0	119.0			QL=6 ST=2 TYP=5
	610	SGMR	47	GB	1412.1	1414.1	13.0	89.0			QL=6 ST=2 TYP=5
	4995	SGMR	47	GB	1412.1	1414.5	13.0	110.0			QL=6 ST=2 TYP=5
	1415	SGMR	47	GB	1412.1	1414.6	13.0	119.0			QL=6 ST=2 TYP=5
	2695	SGMR	47	GB	1412.1	1414.6	13.0	88.0			QL=6 ST=2 TYP=5
	8800	SGMR	47	GB	1412.1	1414.6	13.0	119.0			QL=6 ST=2 TYP=5
	15400	SGMR	47	GB	1412.1	1415.5	13.0	110.0			QL=6 ST=2 TYP=5
	2695	ATHN	49	GB	1421.5	1427.3	44.0	670.0			QL=2 ST=2 TYP=6
	1415	ATHN	49	GB	1421.5	1430.3	44.0	230.0			QL=2 ST=2 TYP=6
	8800	ATHN	49	GB	1421.5	1430.3	44.0	210.0			QL=2 ST=2 TYP=6
	4995	ATHN	49	GB	1421.5	1430.3	44.0	450.0			QL=2 ST=2 TYP=6
	610	SGMR	49	GB	1425.1	1425.6	12.4	370.0			QL=6 ST=2 TYP=6

SOLAR RADIO EMISSION
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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
08	410	SGMR	49	GB	1425.1	1425.6	12.4	540.0			QL=6 ST=2 TYP=6
	1415	SGMR	49	GB	1425.1	1427.3	12.4	670.0			QL=6 ST=2 TYP=6
	2695	SGMR	49	GB	1425.1	1427.3	12.4	730.0			QL=6 ST=2 TYP=6
	245	SGMR	47	GB	1425.1	1427.5	12.4	169.0			QL=6 ST=2 TYP=5
	15400	SGMR	47	GB	1425.1	1427.5	12.4	200.0			QL=6 ST=2 TYP=5
	4995	SGMR	49	GB	1425.1	1427.6	12.4	430.0			QL=6 ST=2 TYP=6
	8800	SGMR	47	GB	1425.1	1427.6	12.4	300.0			QL=6 ST=2 TYP=5
	1415	SGMR	49	GB	1437.5	1437.6	26.0	620.0			QL=6 ST=2 TYP=6
	610	SGMR	49	GB	1437.5	1437.6	26.0	600.0			QL=6 ST=2 TYP=6
	4995	SGMR	49	GB	1437.5	1438.1	26.0	840.0			QL=6 ST=2 TYP=6
	2695	SGMR	49	GB	1437.5	1438.1	26.0	680.0			QL=6 ST=2 TYP=6
	8800	SGMR	49	GB	1437.5	1438.1	26.0	530.0			QL=6 ST=2 TYP=6
	410	SGMR	49	GB	1437.5	1443.0	26.0	1699.0			QL=6 ST=2 TYP=6
	4995	SGMR	47	GB	1503.5	1503.6	20.8	219.0			QL=6 ST=2 TYP=5
	8800	SGMR	47	GB	1503.5	1503.6	17.5	100.0			QL=6 ST=2 TYP=5
	1415	SGMR	47	GB	1503.5	1503.6	20.8	330.0			QL=6 ST=2 TYP=5
	2695	SGMR	47	GB	1503.5	1503.6	20.8	200.0			QL=6 ST=2 TYP=5
	245	SGMR	8	S	1503.5	1503.8	.5	20.0			QL=6 ST=2 TYP=3
	15400	SGMR	47	GB	1503.5	1503.8	20.8	130.0			QL=6 ST=2 TYP=5
	410	SGMR	47	GB	1503.5	1505.3	20.8	119.0			QL=6 ST=2 TYP=5
	610	SGMR	47	GB	1503.5	1505.6	20.8	280.0			QL=6 ST=2 TYP=5
	9400	HUAN	29	PBI	1517.6	1517.6	93.6	71.0	16.8		T
	4995	SGMR	47	GB	1524.3	1524.5	21.7	100.0			QL=6 ST=2 TYP=5
	410	SGMR	47	GB	1524.3	1524.5	21.7	59.0			QL=6 ST=2 TYP=5
	1415	SGMR	47	GB	1524.3	1524.5	21.7	180.0			QL=6 ST=2 TYP=5
	245	SGMR	4	S/F	1524.3	1524.6	3.5	29.0			QL=6 ST=2 TYP=3
	2695	SGMR	47	GB	1524.3	1524.6	21.7	89.0			QL=6 ST=2 TYP=5
	610	SGMR	47	GB	1524.3	1524.8	21.7	130.0			QL=6 ST=2 TYP=5
	15400	SGMR	47	GB	1524.3	1525.1	21.7	110.0			QL=6 ST=2 TYP=5
	2800	OTTA	30	PBI	1530.0	1530.0	390.0	81.0	25.6		
	1415	SGMR	47	GB	1546.0	1546.1	23.1	60.0			QL=6 ST=2 TYP=5
	610	SGMR	47	GB	1546.0	1546.1	23.1	50.0			QL=6 ST=2 TYP=5
	15400	SGMR	47	GB	1546.0	1546.1	23.1	100.0			QL=6 ST=2 TYP=5
	4995	SGMR	47	GB	1546.0	1546.3	23.1	74.0			QL=6 ST=2 TYP=5
	410	SGMR	4	S/F	1546.0	1546.3	10.3	32.0			QL=6 ST=2 TYP=3
	2695	SGMR	47	GB	1546.0	1546.6	23.1	71.0			QL=6 ST=2 TYP=5
	1415	SGMR	4	S/F	1609.1	1609.3	29.9	42.0			QL=6 ST=2 TYP=3
	610	SGMR	4	S/F	1609.1	1610.0	29.9	31.0			QL=6 ST=2 TYP=3
	4995	SGMR	47	GB	1609.1	1610.6	29.9	73.0			QL=6 ST=2 TYP=5
	2695	SGMR	47	GB	1609.1	1610.8	29.9	92.0			QL=6 ST=2 TYP=5
	15400	SGMR	47	GB	1609.1	1611.3	29.9	100.0			QL=6 ST=2 TYP=5
	410	SGMR	8	S	1615.8	1615.8	.3	17.0			QL=6 ST=2 TYP=3
	9400	HUAN	20	GRF	1653.0	1706.3	25.7	7.7	3.5		0
	9400	HUAN	21	GRF	1931.5	2015.0	111.3	14.2	7.8		0
	2800	OTTA	21	GRF	1935.0	1940.0	50.0	7.6	3.5		
	9400	HUAN	3	S	1936.3	1937.2	1.7	34.8	15.7		0
	2800	OTTA	1	S	1936.5	1937.0	1.5	7.0	3.5		
	9400	HUAN	1	S	2010.6	2011.5	2.3	15.5	9.0		R
	2695	PENT	1	S	2011.0	2011.5	2.0	5.8	2.9		
	245	LEAR	8	S	2159.6	2159.8	.5	45.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	2159.6	2159.8	.2	27.0			QL=6 ST=2 TYP=3
	3750	TYKW	21	GRF	2245.0	2304.0	95.0	9.0	4.0		
	2000	TYKW	21	GRF	2245.0	2310.0	90.0	6.0	3.0		
	9400	TYKW	21	GRF	2248.0	2253.0	35.0	6.0	3.0		
	245	LEAR	47	GB	2300.8	2301.0	.5	58.0			QL=6 ST=3 TYP=5
	410	LEAR	8	S	2300.8	2301.0	.5	20.0			QL=6 ST=2 TYP=3
	9400	TYKW	5	S	2301.8	2302.1	1.0	19.0	6.0		
	9400	TYKW	5	S	2312.0	2313.0	3.0	6.0	2.0		
	3750	TYKW	20	GRF	2325.0	2331.5	55.0	5.0	2.0		
	9400	TYKW	21	GRF	2329.0	2333.0	55.0	4.0	2.0		
	4995	MANI	49	GB	2334.0	0001.6	70.1	15000.0			QL=6 ST=2 TYP=6
	9400	TYKW	5	S	2335.0	2335.9	5.0	12.0	7.0		
	8800	LEAR	8	S	2335.8	2336.8	1.3	16.0			QL=6 ST=2 TYP=3
	15400	LEAR	8	S	2335.8	2336.8	1.3	32.0			QL=6 ST=2 TYP=3
	17000	NOBE	7	C	2335.9	2343.1	9.0	16.0			0
	245	LEAR	8	S	2336.3	2336.5	.3	15.0			QL=6 ST=2 TYP=3
	2695	LEAR	49	GB	2337.1	0000.8	79.0	5400.0			QL=6 ST=2 TYP=7
	8800	LEAR	49	GB	2337.1	2358.1	103.5	20000.0			QL=5 ST=2 TYP=7
	4995	LEAR	49	GB	2337.1	2358.1	92.0	20000.0			QL=6 ST=2 TYP=7
	15400	LEAR	49	GB	2337.1	2358.8	109.0	23999.0			QL=6 ST=2 TYP=7
	610	LEAR	49	GB	2337.3	0018.1	68.5	2399.0			QL=6 ST=2 TYP=7

SOLAR RADIO EMISSION
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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
08	410	LEAR	49	GB	2337.3	0018.8	59.7	3000.0			QL=6 ST=2 TYP=7
	1415	LEAR	49	GB	2337.3	2341.8	70.5	2800.0			QL=6 ST=2 TYP=7
	4995	MANI	47	GB	2338.0	0000.7	66.0	15009.0	5003.0		
	1415	MANI	49	GB	2338.0	2350.0	64.6	940.0			QL=6 ST=2 TYP=6
	1415	MANI	47	GB	2338.0	2350.0	64.5	946.6	315.5		
	245	LEAR	49	GB	2339.0	0017.0	57.8	1699.0			QL=6 ST=2 TYP=7
	9400	TYKW	30	PBI	2340.0		10.0	4.0	2.0		
	9400	TYKW	5	S	2342.0	2343.2	3.0	22.0	7.0		
	15400	LEAR	8	S	2342.8	2343.1	.7	27.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	2342.8	2343.1	.7	18.0			QL=6 ST=2 TYP=3
	2000	TYKW	5	S	2343.0	2343.1	.6	7.0	2.0		
	9400	TYKW	21	GRF	2354.0	2358.0	30.0	6.0	3.0		
09	208	VORO	44	NS	0000.0E		240.0D		10.0		
	200	GORK	44	NS	0559.0E		360.0D		15.0		
	100	GORK	44	NS	0559.0E		360.0D		10.0		
	221	ABST	44	NS	0600.0E	0717.0	180.0D	12.0			
	204	IZMI	43	NS	0700.0		300.0	20.0			
	127	TORN	44	NS	0730.0E	0906.8	410.0D	800.0	22.0		V=1
	260	ONDR	44	NS	0840.0E		333.0D				
	245	LEAR	43	NS	2151.0	0546.1	771.0D	189.0			QL=6 ST=2 TYP=1
	200	HIRA	44	NS	2354.0E	0120.0	450.0D	15.0	5.0		WL
	100	HIRA	44	NS	2354.0E	0506.0	400.0D	70.0	30.0		O
	9400	TYKW	45	C	0001.0	0012.8	16.0	12.0	3.0		
	2695	LEAR	8	S	0018.6	0018.8	.4	10.0			QL=6 ST=2 TYP=3
	15400	LEAR	8	S	0018.6	0018.8	.5	40.0			QL=5 ST=2 TYP=3
	8800	LEAR	8	S	0018.6	0018.8	.5	32.0			QL=5 ST=2 TYP=3
	1415	LEAR	8	S	0018.6	0018.8	.4	8.0			QL=6 ST=2 TYP=3
	4995	LEAR	8	S	0018.6	0018.8	.4	11.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	0023.8	0024.0	.3	11.0			QL=5 ST=2 TYP=3
	15400	LEAR	8	S	0023.8	0024.0	.3	28.0			QL=5 ST=2 TYP=3
	2695	LEAR	8	S	0032.3	0032.5	.5	11.0			QL=6 ST=2 TYP=3
	4995	LEAR	8	S	0032.3	0032.5	.5	11.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	0032.3	0032.5	.5	26.0			QL=5 ST=2 TYP=3
	1415	LEAR	8	S	0032.3	0032.5	.5	10.0			QL=6 ST=2 TYP=3
	15400	LEAR	8	S	0032.3	0032.5	.5	30.0			QL=5 ST=2 TYP=3
	3750	TYKW	5	S	0034.0	0045.0	23.0	3.0	1.5		
	2000	TYKW	5	S	0037.0	0039.5	10.0	5.0	2.0		
	15400	LEAR	8	S	0042.8	0042.8	.3	43.0			QL=5 ST=2 TYP=3
	2695	LEAR	8	S	0042.8	0042.8	.3	10.0			QL=6 ST=2 TYP=3
	1415	LEAR	8	S	0042.8	0042.8	.3	8.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	0042.8	0042.8	.3	20.0			QL=5 ST=2 TYP=3
	4995	LEAR	8	S	0042.8	0042.8	.3	11.0			QL=6 ST=2 TYP=3
	9400	TYKW	5	S	0052.5	0054.0	5.0	3.0	1.5		
	3750	TYKW	5	S	0127.0	0129.7	5.0	8.0	3.0		
	3750	TYKW	29	PBI	0132.0		50.0	2.0	1.0		
	9400	TYKW	20	GRF	0137.0	0150.0	35.0	4.0	2.0		
	2000	TYKW	21	GRF	0210.0	0244.0	270.0	15.0	5.0		
	9400	TYKW	21	GRF	0220.0	0336.0	215.0	15.0	6.0		
	8800	LEAR	47	GB	0223.0	0257.3	84.0	57.0			QL=5 ST=2 TYP=5
	1415	LEAR	4	S/F	0223.0	0258.6	79.0	28.0			QL=6 ST=2 TYP=3
	9400	TYKW	45	C	0224.0	0230.4	17.0	16.0	7.0		
	9395	PEKG	45	C	0224.0	0230.4	17.0	12.3	7.6		
	9395	PEKG			0224.0	0237.0		17.1	4.0		
	3750	TYKW	21	GRF	0226.0	0250.0	245.0	16.0	8.0		
	4995	LEAR	4	S/F	0227.5	0257.3	79.5	35.0			QL=6 ST=2 TYP=3
	15400	LEAR	20	GRF	0230.0	0300.6	77.0	32.0			QL=5 ST=2 TYP=2
	1000	TYKW	21	GRF	0234.0U	0250.0U	180.0U	5.0	2.5		INTERFERENCE
	2695	LEAR	4	S/F	0239.6	0257.3	65.4	20.0			QL=6 ST=2 TYP=3
	17000	NOBE	20	GRF	0244.7	0258.5	40.0	23.0			O
	9400	TYKW	45	C	0247.0	0257.3	24.0	28.0	14.0		
	9395	PEKG	45	C	0253.0	0257.3	13.0	11.5	6.7		
	3750	TYKW	5	S	0256.0	0257.3	2.5	7.0	2.0		
	1000	TYKW	5	S	0257.0	0257.2	.5	45.0	8.0		
	2000	TYKW	5	S	0257.1E	0257.3	.5D	6.0	2.0D		
	9400	TYKW	29	PBI	0311.0		15.0	8.0	4.0		
	9400	TYKW	45	C	0404.0	0410.7	13.0	14.0	8.0		
	3750	TYKW	5	S	0410.0	0410.5	2.0	1.5	.5		
	9400	TYKW	30	PBI	0417.0		95.0	6.0	3.0		
	9400	TYKW	5	S	0419.0	0420.0	2.0	6.0	2.0		
	245	LEAR	49	GB	0420.8	0421.1	.7	610.0			QL=5 ST=2 TYP=6

SOLAR RADIO EMISSION
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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
09	9395	PEKG	3	S	0422.0	0424.8	6.0	113.0	25.0		
	9400	TYKW	45	C	0422.5	0424.8	16.5	81.0	15.0		
	2000	TYKW	5	S	0422.7	0423.5	1.0	4.0	1.0		
	245	LEAR	49	GB	0423.3	0423.3	.7	3699.0			QL=5 ST=2 TYP=6
	17000	NOBE	1	S	0423.7	0424.9	10.0	36.0			R
	2000	TYKW	45	C	0424.0	0424.7	1.5	170.0	60.0		
	3750	TYKW	5	S	0424.0	0424.9	4.0	8.0	2.5		
	3750	TYKW	21	GRF	0430.0	0452.0	80.0	6.0	3.0		
	9400	TYKW	30	PBI	0439.0		20.0	4.0	2.0		
	2000	TYKW	21	GRF	0445.0	0540.0	110.0	6.0	3.0		
	9400	TYKW	5	S	0447.0	0448.6	3.0	66.0	21.0		
	3750	TYKW	5	S	0447.7	0448.6	1.5	8.0	3.0		
	2000	TYKW	45	C	0448.0	0448.6	16.0	2.0	1.0		
	17000	NOBE	1	S	0448.0	0448.9	8.0	56.0			L
	9400	TYKW	29	PBI	0450.0		7.0	10.0	5.0		
	245	LEAR	47	GB	0459.1	0459.1	.4	87.0			QL=6 ST=2 TYP=5
	410	LEAR	47	GB	0459.1	0459.1	.2	139.0			QL=6 ST=2 TYP=5
	2000	TYKW	5	S	0510.0	0511.0	7.0	1.5	.5		
	9400	TYKW	21	GRF	0516.0	0520.0	35.0	10.0	5.0		
	9400	TYKW	45	C	0516.5	0517.0	2.5	10.0	3.0		
	9395	PEKG	3	S	0516.5	0517.0	2.5	15.6	10.8		
	3750	TYKW	5	S	0520.0	0522.5	10.0	3.0	1.0		
	3750	TYKW	5	S	0539.5	0541.0	4.0	2.0	.7		
	9400	TYKW	20	GRF	0559.0	0603.0	30.0	6.0	3.0		
	2000	TYKW	5	S	0611.0	0613.3	15.0	4.0	1.5		
	3750	TYKW	5	S	0637.0	0637.3	1.0	4.0	1.5		
	9100	GORK	23	GRF	0637.7	0844.3	307.00	54.0			
	610	LEAR	8	S	0641.1	0641.3	.2	28.0			QL=6 ST=3 TYP=3
	2950	GORK	21	GRF	0717.4	0940.0	268.00	23.8			
	113	POTS	8	S	0743.2	0743.3	.3	200.0	70.0		
	430	KRAK	42	SER	0807.2	0818.0	84.0	78.0			
	9500	POTS	20	GRF	0830.0	0844.5	29.0	36.0			
	6100	KISV	20	GRF	0832.0	0845.3	15.0	25.0			
	8800	LEAR	20	GRF	0840.0	0841.1	12.8	40.0			QL=6 ST=2 TYP=2
	4995	ATHN	4	S/F	0841.0	0845.1	10.0	9.0			QL=2 ST=2 TYP=3
	8800	ATHN	4	S/F	0841.1	0844.5	7.9	5.0			QL=6 ST=2 TYP=3
	4995	LEAR	20	GRF	0842.1	0845.3	10.7	20.0			QL=6 ST=2 TYP=2
	6100	KISV	23	GRF	0901.0	0905.0	13.0	11.0			
	113	POTS	4	S/F	0906.9	0907.0	.6	840.0	100.0		III
	6100	KISV	28	PRE	0916.0	0934.8	19.0	25.0			
	9500	POTS	20	GRF	0920.0	0938.5	55.0	58.0			
	5200	BERN	20	GRF	0922.1	0938.3	30.0	47.0			
	3100	BERN	20	GRF	0922.1	0939.9	30.0	17.0			
	3100	CRIM	20	GRF	0924.0	0940.5	48.0	25.0	8.0		
	4995	ATHN	47	GB	0933.5	0938.5	12.5	57.0			QL=2 ST=2 TYP=5
	6100	KISV			0934.8	0936.8		54.0			
	6100	KISV	46	C	0934.8	0938.6	7.0	71.0			
	6100	KISV			0934.8	0939.9		65.0			
	4995	LEAR	47	GB	0935.1	0938.5	8.7	60.0			QL=6 ST=2 TYP=5
	8800	LEAR	47	GB	0935.3	0938.5	9.3	69.0			QL=6 ST=2 TYP=5
	2695	LEAR	4	S/F	0935.6	0936.5	5.9	13.0			QL=6 ST=2 TYP=3
	8800	ATHN	4	S/F	0935.8	0938.3	9.3	30.0			QL=6 ST=2 TYP=3
	9100	GORK	4	S/F	0936.0	0938.3	4.8	50.0			
	15400	LEAR	4	S/F	0937.6	0938.5	2.5	24.0			QL=6 ST=2 TYP=3
	6100	KISV	29	PBI	0941.8	0942.0	24.0	40.0			
	260	ONDR	45	C	1013.0	1015.0U	9.0	185.00			
	3100	CRIM	21	GRF	1024.0	1100.0	86.0	9.0	3.0		
	536	ONDR	1	S	1025.0	1026.0	1.5	6.0	4.0		
	3100	CRIM	1	S	1037.0	1038.2	2.0	16.0	5.0		
	6100	KISV	28	PRE	1037.0	1039.9	41.0	20.0			
	3000	POTS	21	GRF	1038.0	1039.8	40.0	17.0			
	2950	GORK	3	S	1038.9	1040.0	3.5	17.4			
	2650	DWIN	1	S	1039.0	1040.0	2.0	10.0	5.0		SUNSET
	9500	POTS	20	GRF	1039.0	1041.8	22.0	15.0			
	2695	ATHN	4	S/F	1039.3	1039.8	5.7	11.0			QL=2 ST=2 TYP=3
	4995	ATHN	4	S/F	1039.3	1040.0	5.7	16.0			QL=2 ST=2 TYP=3
	8800	ATHN	4	S/F	1039.3	1041.8	8.2	11.0			QL=6 ST=2 TYP=3
	6100	KISV	1	S	1047.0	1049.2	4.0	10.0			
	260	ONDR	45	C	1047.0	1052.0U	7.0	192.00			
	430	KRAK	8	S	1050.3	1050.4	.1	13.0			
	930	BORD	8	S	1103.9	1103.9	.1	16.0	1.0		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

DECEMBER 1982

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
09	930	BORD	8	S	1108.6	1108.6	.1	182.0	1.0		
	808	ONDR	8	S	1108.7	1108.7	.1	14.0			
	3000	POTS	45	C	1120.0	1134.0	30.0	131.0			
	3100	CRIM	45	C	1122.0	1124.5	17.0	70.0	40.0		
	3100	CRIM			1122.0	1132.0		120.0			
	808	ONDR	28	PRE	1122.0	1132.5	11.0	6.0	4.0		
	1470	POTS	45	C	1123.0	1135.5	27.0	81.0			
	9500	POTS	45	C	1123.5	1134.0	57.0	330.0			
	5200	BERN	46	C	1123.8	1134.1	22.0	196.0			
	3100	BERN	46	C	1123.8	1134.2	22.0	104.0			
	6100	KISV			1124.0	1124.6		121.0			
	6100	KISV			1124.0	1125.6		87.0			
	6100	KISV			1124.0	1130.4		80.0			
	100	GORK	4	S/F	1124.0	1131.7	8.4D	75.0D			
	6100	KISV	46	C	1124.0	1134.2	25.0	187.0			
	3000	IZMI	7	C	1124.0	1134.7	18.0	110.0	53.0		
	9400	HUAN	45	C	1124.0	1135.7U	15.1	217.1	107.0		L
	2695	ATHN	47	GB	1124.1	1126.5	20.9	53.0			QL=2 ST=3 TYP=5
	4995	ATHN	47	GB	1124.3	1124.6	19.7	139.0			QL=2 ST=3 TYP=5
	8800	ATHN	47	GB	1124.3	1124.6	20.7	130.0			QL=6 ST=3 TYP=5
	2950	GORK	45	C	1124.3	1126.4U	14.5	50.0			
	2950	GORK			1124.3	1132.0		58.0			
	9100	GORK	47	GB	1124.3	1134.0	20.0D	450.0U			
	2950	GORK			1124.3	1134.2		111.0D			
	1415	ATHN	47	GB	1124.5	1126.0	19.5	13.0			QL=6 ST=3 TYP=5
	650	GORK	20	GRF	1124.6	1134.4	15.1	20.0	7.0		
	2650	DWIN	45	C	1125.0	1134.0	15.0	100.0	50.0		
	810	KRAK	27	RF	1126.5	1136.0	17.0	30.0	11.0		
	200	GORK	4	S/F	1126.8	1128.1	3.0D	80.0D			
	204	IZMI	5	S	1127.0	1128.8	2.4	400.0	200.0		
	950	GORK	23	GRF	1127.5	1130.7	13.5	9.0			
	536	ONDR	46	C	1130.0	1135.0	9.0	10.0	9.0		
	930	BORD	3	S	1133.0	1136.2	7.0	34.0	12.0		
	808	ONDR	45	C	1133.0	1136.5	9.0	19.0	16.0		
	950	GORK	3	S	1133.2	1136.5	6.2	35.0			
	430	KRAK	27	RF	1134.5		5.5	10.0	6.0		
	536	ONDR	29	PBI	1139.0	1139.0	21.0	3.0	2.0		
	9400	HUAN	29	PBI	1139.1	1139.1	49.1	45.0	11.8		L
	430	KRAK	42	SER	1149.8		40.7	18.0			
	808	ONDR	40	F	1155.0	1159.0	7.5	6.0			
	810	KRAK	42	SER	1155.5	1157.7	7.0	34.0			
	930	BORD	41	F	1156.0	1159.7	7.0	27.0	4.0		
	9400	HUAN	21	GRF	1256.1	1314.0	35.0	5.3	2.5		0
	9400	HUAN	1	S	1306.0	1306.5	1.1	6.6	3.3		0
	536	ONDR	8	S	1307.5	1307.5	.1	50.0			
	430	KRAK	8	S	1338.0	1338.0	.1	8.0			
	2800	OTTA	22	GRF	1340.0	1348.0	85.0	16.2			
	9400	HUAN	23	GRF	1341.7	1422.0	77.1	15.9	9.9		R
	9400	HUAN	1	S	1342.4	1343.0	1.3	10.6	7.1		0
	4995	ATHN	4	S/F	1342.6	1347.5	10.4	9.0			QL=2 ST=2 TYP=3
	4995	SGMR	8	S	1347.0	1348.3	1.3	16.0			QL=6 ST=2 TYP=3
	8800	SGMR	4	S/F	1348.0	1350.3	2.5	27.0			QL=6 ST=2 TYP=3
	4995	SGMR	20	GRF	1350.6	1353.3	4.5	20.0			QL=6 ST=2 TYP=2
	8800	SGMR	4	S/F	1351.3	1353.5	6.3	30.0			QL=6 ST=2 TYP=3
	810	KRAK	8	S	1354.2	1354.2	.1	9.0			
	930	BORD	8	S	1356.4	1356.4	.1	34.0	1.0		
	4995	ATHN	4	S/F	1403.0	1404.6	5.5	45.0			QL=2 ST=2 TYP=3
	8800	ATHN	47	GB	1403.1	1404.3	5.0	70.0			QL=6 ST=2 TYP=5
	8400	BERN	4	S/F	1403.2	1404.1	5.0	97.0			
	11800	BERN	3	S	1403.2	1404.1	5.0	56.0			
	3100	BERN	45	C	1403.2	1404.1	5.0	58.0			
	19600	BERN	3	S	1403.2	1404.5	5.0	41.0			
	5200	BERN	3	S	1403.2	1404.6	5.0	60.0			
	2695	ATHN	4	S/F	1403.3	1404.0	4.2	26.0			QL=2 ST=2 TYP=3
	9400	HUAN	3	S	1403.3	1404.1	2.7	78.1	31.6		R
	8800	SGMR	47	GB	1403.3	1404.1	2.5	110.0			QL=6 ST=2 TYP=5
	4995	SGMR	4	S/F	1403.3	1404.6	3.3	47.0			QL=6 ST=2 TYP=3
	15400	SGMR	47	GB	1403.8	1404.0	1.0	70.0			QL=6 ST=2 TYP=5
	930	BORD	41	F	1437.4	1437.4	.8	30.0	2.0		
	2800	OTTA	32	ABS	1600.0	1610.0	23.0	6.0	3.2		
	9400	HUAN	20	GRF	1630.4	1635.5	22.7	9.9	4.4		

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
09	2800	OTTA	1	S	1633.0	1634.3	2.0	6.4	3.2		
	2800	OTTA	4	S/F	1733.0	1737.0	8.0	129.0	43.0		
	9400	HUAN	3	S	1733.1	1737.1	6.6	128.4	63.1		R
	4995	SGMR	47	GB	1735.1	1737.1	35.2	260.0			QL=6 ST=2 TYP=5
	2695	SGMR	47	GB	1735.5	1737.0	7.8	130.0			QL=6 ST=2 TYP=5
	245	SGMR	8	S	1735.8	1736.1	1.0	27.0			QL=6 ST=2 TYP=3
	610	SGMR	47	GB	1735.8	1736.5	3.5	119.0			QL=6 ST=2 TYP=5
	8800	SGMR	47	GB	1735.8	1737.1	30.5	139.0			QL=6 ST=2 TYP=5
	15400	SGMR	47	GB	1736.1	1737.1	3.2	96.0			QL=6 ST=2 TYP=5
	1415	SGMR	8	S	1736.6	1736.8	.5	20.0			QL=6 ST=2 TYP=3
	410	SGMR	4	S/F	1737.0	1737.3	2.3	43.0			QL=6 ST=2 TYP=3
	9400	HUAN	30	PBI	1739.7	1739.7	55.5	43.7	25.9		R
	2800	OTTA	30	PBI	1741.0	1741.0	95.0	19.8	5.0		
	9400	HUAN	3	S	1745.8	1746.7	2.8	22.5	15.7		R
	2800	OTTA	4	S/F	1746.0	1746.4	1.0	21.4	7.2		
	9400	HUAN	4	S/F	1900.0	1903.0	4.9	88.7	41.2		R
	8800	SGMR	8	S	1902.5	1902.8	1.0	46.0			QL=6 ST=2 TYP=3
	610	SGMR	47	GB	1903.3	1903.5	.5	119.0			QL=6 ST=2 TYP=5
	9400	HUAN	30	PBI	1904.9	1904.9	51.4	5.3	2.6		0
	9400	HUAN	1	S	1907.2	1908.0	1.8	5.3	2.6		0
	9400	HUAN	1	S	2124.0	2124.8	2.4	9.3	5.8		0
	2695	PENT	4	S/F	2135.0	2145.5	23.0	314.0	96.0		
	9400	HUAN	45	C	2137.3	2145.0U	11.8	189.3	56.3		R
	1415	LEAR	47	GB	2144.8E	2145.6	8.0D	370.0			QL=4 ST=3 TYP=5
	4995	LEAR	49	GB	2145.3E	2145.6	12.3D	1699.0			QL=4 ST=3 TYP=6
	2695	LEAR	49	GB	2145.3E	2145.8	10.3D	840.0			QL=4 ST=3 TYP=6
	8800	LEAR	49	GB	2145.3E	2145.8	11.7D	1100.0			QL=4 ST=3 TYP=6
	15400	LEAR	47	GB	2145.3E	2145.8	9.7D	320.0			QL=4 ST=3 TYP=5
	9400	HUAN	30	PBI	2149.1	2149.1	50.1	150.3	36.6		R
	2695	PENT	29	PBI	2158.0	2158.0	30.0D	49.0			
	9400	HUAN	3	S	2159.0	2159.8	2.6	23.9	6.6		0
	3750	TYKW	5	S	2258.0	2302.0	13.0	4.0	2.0		
	9400	TYKW	5	S	2258.0	2304.0	15.0	5.0	2.0		
	9400	TYKW	45	C	2315.0	2316.8	5.0	15.0	8.0		
	3750	TYKW	5	S	2316.0	2318.0	15.0	4.0	2.0		
	8800	LEAR	4	S/F	2316.8	2317.3	5.8	22.0			QL=6 ST=2 TYP=3
	4995	LEAR	4	S/F	2317.1	2317.3	5.5	11.0			QL=6 ST=2 TYP=3
	9400	TYKW	29	PBI	2320.0		25.0	8.0	4.0		
	9400	TYKW	5	S	2350.0	2351.0	3.0	3.0	1.0		
	3750	TYKW	5	S	2350.0	2355.0	25.0	2.0	1.0		
	9400	TYKW	5	S	2359.0	0000.3	3.0	6.0	2.0		
10	208	VORO	44	NS	0000.0E		240.0D		5.0		
	221	ABST	44	NS	0600.0E	0632.5	75.0D	15.0			
	100	GORK	44	NS	0605.0E		341.0D		15.0		
	200	GORK	44	NS	0606.0E		340.0D		15.0		
	204	IZMI	43	NS	0700.0		300.0	20.0			
	410	LEAR	43	NS	0705.3	0725.3	216.7D	13.0			QL=6 ST=2 TYP=1
	127	TORN	44	NS	0730.0E	0908.6	410.0D	400.0	17.0		V=1
	260	ONDR	44	NS	0820.0E		320.0D	34.0			
	245	SGMR	43	NS	1336.5	1400.3	428.5D	200.0			QL=6 ST=2 TYP=1
	200	HIRA	44	NS	2137.0E	0618.0	580.0D	110.0	60.0		ML
	100	HIRA	44	NS	2137.0E	0630.0	580.0D	1500.0	490.0		WL
	245	LEAR	43	NS	2151.0	0929.8	771.0D	340.0			QL=6 ST=2 TYP=1
	200	HIRA	7	C	0013.1	0013.3	1.0	320.0	54.0		MR
	9400	TYKW	45	C	0017.0	0018.2	10.0	72.0	30.0		
	3750	TYKW	21	GRF	0017.0	0059.0	98.0	6.0	3.0		
	17000	NOBE	7	C	0017.1	0018.3	50.0	40.0			0
	8800	LEAR	47	GB	0017.3	0019.8	8.8	58.0			QL=6 ST=2 TYP=5
	15400	LEAR	4	S/F	0017.3	0019.8	8.0	37.0			QL=6 ST=2 TYP=3
	4995	LEAR	4	S/F	0017.3	0021.8	8.8	13.0			QL=6 ST=2 TYP=3
	3750	TYKW	45	C	0017.5	0019.6	11.0	6.0	3.0		
	2000	TYKW	5	S	0018.0	0018.3	1.0	2.0	.7		
	245	LEAR	8	S	0019.3	0019.5	.3	30.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0019.3	0019.5	.3	22.0			QL=6 ST=2 TYP=3
	9400	TYKW	30	PBI	0027.0		85.0	16.0	8.0		
	9400	TYKW	21	GRF	0030.0	0039.0	40.0	4.0	2.0		
	9400	TYKW	5	S	0040.0	0041.4	3.0	10.0	4.0		
	35000	NAGO	20	GRF	0040.0	0055.0	601.0	15.0			
	9400	TYKW	30	PBI	0043.0		7.0	3.0	1.5		
	3750	TYKW	5	S	0043.5	0044.4	5.0	6.0	1.5		

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
10	9400	TYKW	5	S	0043.5	0044.4	2.0	7.0	2.0		
	3750	TYKW	45	C	0050.0	0052.7	5.0	10.0	2.5		
	9400	TYKW	5	S	0051.0	0052.7	15.0	8.0	4.0		
	2000	TYKW	28	PRE	0105.0	0400.0	175.0	20.0	10.0		
	9400	TYKW	45	C	0115.0	0115.8	5.0	30.0	15.0		
	2000	TYKW	5	S	0115.0	0115.8	5.0	6.0	2.5		
	3750	TYKW	5	S	0115.0	0115.9	4.0	29.0	12.0		
	2840	PEKG	3	S	0115.0	0116.0	4.0	22.5	6.2		
	9395	PEKG	3	S	0115.0	0116.0	5.0	13.7	4.8		
	3750	TYKW	29	PBI	0119.0		4.0	4.0	2.0		
	9400	TYKW	30	PBI	0120.0		32.0	10.0	5.0		
	3750	TYKW	5	S	0124.0	0125.4	3.0	2.0	1.0		
	3750	TYKW	5	S	0128.0	0139.0	26.0	6.0	3.0		
	9400	TYKW	5	S	0130.0	0139.0	20.0	6.0	3.0		
	2000	TYKW	5	S	0135.0	0138.0	20.0	2.0	1.0		
	9400	TYKW	45	C	0154.0	0159.4	14.0	62.0	21.0		
	9395	PEKG	3	S	0154.0	0159.4	19.0	76.3	20.3		
	2695	LEAR	4	S/F	0154.6	0159.8	20.7	24.0			QL=6 ST=2 TYP=3
	3750	TYKW	5	S	0156.0	0200.0	17.0	40.0	25.0		
	2840	PEKG	3	S	0156.0	0159.0	30.0	34.8	20.0		
	2000	TYKW	5	S	0157.0	0200.0	9.0	11.0	7.0		
	8800	LEAR	47	GB	0157.1	0159.3	16.9	87.0			QL=6 ST=2 TYP=5
	4995	LEAR	4	S/F	0157.1	0159.6	16.5	46.0			QL=6 ST=2 TYP=3
	2000	TYKW	29	PBI	0206.0		30.0	5.0	3.0		
	9400	TYKW	30	PBI	0208.0		24.0	6.0	3.0		
	3750	TYKW	30	PBI	0213.0		23.0	17.0	12.0		
	9400	TYKW	5	S	0226.0	0228.0	5.0	4.0	2.0		
	9400	TYKW	45	C	0235.0	0241.0	35.0	300.0	65.0		
	9395	PEKG	46	C	0235.0	0241.0	25.0	373.0	109.0		
	8800	LEAR	47	GB	0235.1	0241.0	33.9	340.0			QL=6 ST=2 TYP=5
	3750	TYKW	45	C	0236.0	0241.0	34.0	210.0	57.0		
	4995	LEAR	47	GB	0236.5	0241.0	36.8	300.0			QL=6 ST=2 TYP=5
	4995	MANI	20	GRF	0238.1	0241.0	8.9	250.0			QL=6 ST=2 TYP=2
	15400	LEAR	47	GB	0238.8	0241.3	33.0	88.0			QL=6 ST=2 TYP=5
	17000	NOBE	7	C	0238.9	0241.4	40.0	36.0			R
	2000	TYKW	45	C	0239.0	0243.6	16.0	17.0	11.0		
	2695	LEAR	47	GB	0239.0	0240.8	31.3	61.0			QL=6 ST=2 TYP=5
	2840	PEKG	46	C	0239.0	0241.0	19.0	89.1	34.0		
	4995	MANI	4	S/F	0239.0	0241.7	8.0	252.5	84.2		
	1000	TYKW	28	PRE	0245.0	0400.0	75.0	3.0	1.5		
	2000	TYKW	29	PBI	0255.0		30.0	10.0	5.0		
	2840	PEKG	29	PBI	0258.0		28.0	31.4	27.4		
	9395	PEKG	29	PBI	0300.0		27.0	45.0	40.0		
	3750	TYKW	30	PBI	0310.0		23.0	28.0	24.0		
	9400	TYKW	30	PBI	0310.0		23.0	23.0	18.0		
	2000	TYKW	5	S	0333.0	0338.6	11.0	4.0	1.5		
	9400	TYKW	28	PRE	0333.0	0401.0	28.0	25.0	19.0		
	3750	TYKW	45	C	0333.0	0413.4	130.0	155.0	80.0		
	3750	TYKW			0333.0	0443.2		140.0			
	1000	TYKW	45	C	0400.0	0424.9	100.0	40.0	22.0		
	2000	TYKW	45	C	0400.0	0443.2	75.0	108.0	66.0		
	1000	TYKW			0400.0	0443.2		34.0			
	1000	TYKW			0400.0	0455.6		34.0			
	4995	LEAR	47	GB	0400.6	0406.3	19.4	77.0			QL=6 ST=2 TYP=5
	9400	TYKW	45	C	0401.0	0412.8	65.0	178.0	90.0		
	9400	TYKW			0401.0	0442.6		145.0			
	2695	LEAR	47	GB	0401.0	0406.3	19.0	50.0			QL=6 ST=2 TYP=5
	200	HIRA	8	S	0401.3	0401.3	.3	85.0			ML
	17000	NOBE	7	C	0402.1	0418.0	109.0	85.0			R
	8800	LEAR	47	GB	0403.5	0406.3	16.5	53.0			QL=6 ST=2 TYP=5
	1415	LEAR	47	GB	0404.3	0404.5	1.0	70.0			QL=6 ST=2 TYP=5
	15400	LEAR	47	GB	0406.8	0410.0	13.2	36.0			QL=6 ST=2 TYP=5
	35000	NAGO	20	GRF	0410.0	0426.0	120.0	20.0			
	15400	LEAR	47	GB	0420.0	0420.1	29.3	99.0			QL=6 ST=2 TYP=5
	4995	LEAR	47	GB	0420.0	0420.1	29.3	160.0			QL=6 ST=2 TYP=5
	8800	LEAR	47	GB	0420.0	0442.6	29.3	160.0			QL=6 ST=2 TYP=5
	2695	LEAR	47	GB	0420.0	0443.1	29.3	110.0			QL=6 ST=2 TYP=5
	1415	LEAR	47	GB	0420.0	0443.8	29.3	64.0			QL=6 ST=2 TYP=5
	200	HIRA	7	C	0441.3	0442.7	2.1	3500.0	130.0		WL
	100	HIRA	45	C	0442.3	0442.5	.9	1300.0	240.0		WL
	500	HIRA	22	GRF	0442.3	0557.5	80.0	10.0	6.0		SL

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10	200	HIRA	42	SER	0505.3	0519.5	15.0	87.0			ML
	9400	TYKW	30	PBI	0506.0		100.0D	88.0	73.0D		
	2000	TYKW	29	PBI	0515.0		100.0D	67.0	57.0D		
	9400	TYKW	20	GRF	0517.0	0530.0	45.0	15.0	8.0		
	100	HIRA	24	R	0521.0	0600.0	120.0D	280.0	90.0		ML
	200	HIRA	24	R	0523.0	0555.0	114.0D	45.0	23.0		ML
	1000	TYKW	29	PBI	0540.0		70.0D	23.0	19.0D		
	3750	TYKW	29	PBI	0543.0		60.0D	70.0	58.0D		
	200	HIRA	46	C	0545.7	0547.6	3.1	130.0	55.0		ML
	3100	CRIM	26	FAL	0600.0	1000.0		55.0			
	9100	GORK	23	GRF	0602.0	0632.0	322.0U	74.0			
	2950	GORK	21	GRF	0608.0	0703.0	211.0	60.0			
	4995	ATHN	47	GB	0732.5	0732.8	.8	119.0			QL=2 ST=2 TYP=5
	8800	ATHN	4	S/F	0758.3	0759.8	3.0	26.0			QL=6 ST=2 TYP=3
	4995	ATHN	4	S/F	0758.3	0800.0	3.0	32.0			QL=2 ST=2 TYP=3
	950	GORK	2	S/F	0758.7	0759.2	.8	6.0			
	2950	GORK	3	S	0758.8	0759.4	1.0	24.0			
	9100	GORK	4	S/F	0758.8	0759.7	1.4	36.0			
	1415	LEAR	8	S	0759.1	0759.1	.9	31.0			QL=6 ST=2 TYP=3
	15400	LEAR	8	S	0759.1	0759.3	.7	37.0			QL=6 ST=2 TYP=3
	2695	LEAR	8	S	0759.1	0759.6	1.0	36.0			QL=6 ST=2 TYP=3
	2695	ATHN	8	S	0759.1	0800.0	2.0	23.0			QL=2 ST=2 TYP=3
	8800	LEAR	8	S	0759.3	0759.6	.3	37.0			QL=5 ST=2 TYP=3
	4995	LEAR	8	S	0759.3	0759.6	.7	30.0			QL=6 ST=2 TYP=3
	810	KRAK	8	S	0759.5	0759.8	.3	68.0			
	9100	GORK	2	S/F	0804.1	0804.9	1.6	18.0			
	4995	ATHN	8	S	0804.5	0805.0	.8	6.0			QL=2 ST=2 TYP=3
	8800	ATHN	8	S	0804.5	0805.1	1.5	8.0			QL=6 ST=2 TYP=3
	810	KRAK	8	S	0820.0	0820.0	.1	13.0			
	200	GORK	27	RF	0908.2	0913.3	13.0	40.0			
	536	ONDR	8	S	1046.8	1046.8	.1	8.0			
	536	ONDR	8	S	1114.0	1114.0	.1	8.0			
	536	ONDR	8	S	1144.5	1144.5	.1	20.0			
	6100	KISV	4	S/F	1155.0	1156.8	3.0	22.0			
	9500	POTS	3	S	1155.0	1156.8	3.5	20.0			
	9400	HUAN	2	S/F	1155.3	1156.5	2.2	19.7	10.2		0
	8800	ATHN	8	S	1156.0	1156.6	2.0	24.0			QL=6 ST=2 TYP=3
	9400	HUAN	29	PBI	1157.5	1157.5	9.5	5.6	3.4		0
	810	KRAK	2	S/F	1233.7	1234.3	1.0	37.0	10.0		
	808	ONDR	46	C	1234.0	1235.0	2.0	45.0			
	9400	HUAN	1	S	1234.0	1235.0	2.4	4.2	2.6		0
	930	BORD	45	C	1234.2	1234.8	1.3	123.0	9.0		
	536	ONDR	8	S	1255.0	1255.0	.1	35.0			
	9400	HUAN	21	GRF	1300.4	1343.0	99.9	38.0	16.3		0
	3000	POTS	20	GRF	1312.0	1332.0	38.0	36.0			
	9500	POTS	20	GRF	1315.0	1329.0	35.0	38.0			
	2695	ATHN	20	GRF	1317.8	1321.0	8.2	7.0			QL=2 ST=2 TYP=2
	2695	SGMR	4	S/F	1317.8	1321.0	5.7	31.0			QL=6 ST=2 TYP=3
	8800	ATHN	20	GRF	1318.0	1320.6	8.0	21.0			QL=6 ST=2 TYP=2
	4995	ATHN	20	GRF	1318.1	1321.0	7.9	20.0			QL=2 ST=2 TYP=2
	4995	SGMR	8	S	1319.6	1320.8	1.7	30.0			QL=6 ST=2 TYP=3
	2800	OTTA	21	GRF	1320.0	1350.0	90.0	18.8	9.8		
	9400	HUAN	1	S	1320.0	1320.9	1.6	9.8	6.2		0
	4995	SGMR	8	S	1323.0	1324.3	1.5	20.0			QL=6 ST=2 TYP=3
	2695	SGMR	4	S/F	1327.1	1329.5	3.4	20.0			QL=6 ST=2 TYP=3
	9400	HUAN	4	S/F	1328.5	1329.2	1.5	23.9	11.0		0
	4995	SGMR	8	S	1328.6	1329.1	1.0	30.0			QL=6 ST=2 TYP=3
	8800	SGMR	8	S	1328.6	1329.1	1.0	46.0			QL=6 ST=2 TYP=3
	15400	SGMR	47	GB	1328.8	1329.3	7.2	69.0			QL=6 ST=2 TYP=5
	1415	SGMR	8	S	1330.5	1330.8	1.3	11.0			QL=6 ST=2 TYP=3
	9400	HUAN	2	S/F	1349.8	1350.9	2.6	18.3	8.4		0
	2695	SGMR	8	S	1350.1	1351.0	2.0	28.0			QL=6 ST=3 TYP=3
	2800	OTTA	3	S	1350.2	1351.0	2.2	17.2	8.0		
	2695	ATHN	8	S	1350.3	1351.1	2.0	7.0			QL=2 ST=2 TYP=3
	930	BORD	46	C	1350.4	1350.8	.8	176.0	6.0		
	8800	ATHN	4	S/F	1350.5	1351.0	2.1	24.0			QL=6 ST=2 TYP=3
	4995	ATHN	8	S	1350.5	1351.3	1.6	17.0			QL=2 ST=2 TYP=3
	1415	SGMR	8	S	1350.6	1350.8	.5	13.0			QL=6 ST=3 TYP=3
	4995	SGMR	8	S	1350.6	1350.8	.5	23.0			QL=6 ST=3 TYP=3
	8800	SGMR	8	S	1350.6	1351.0	.7	31.0			QL=6 ST=3 TYP=3
	9400	HUAN	2	S/F	1532.8	1535.8	3.7	9.8	4.1		0

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Day	Freq	Sta.	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
10	2800	OTTA	27A RF	1606.0		114.0	11.4	4.7		
	2800	OTTA	24 R	1606.0	1610.0	4.0	11.4	5.4		
	9400	HUAN	23 GRF	1606.3	1651.5	161.3	15.5	10.3		L
	2800	OTTA	24P R	1610.0		85.0	11.4			
	4995	SGMR	8 S	1610.6	1611.1	.9	17.0			QL=6 ST=2 TYP=3
	2695	SGMR	8 S	1610.8	1611.1	.8	19.0			QL=6 ST=2 TYP=3
	2800	OTTA	40 F	1611.0	1615.2	17.0	17.4			
	8800	SGMR	4 S/F	1611.0	1612.5	8.5	21.0			QL=6 ST=2 TYP=3
	1415	SGMR	4 S/F	1611.1	1616.1	5.2	19.0			QL=6 ST=2 TYP=3
	610	SGMR	4 S/F	1612.3	1612.5	3.8	16.0			QL=6 ST=2 TYP=3
	9400	HUAN	2 S/F	1614.3	1616.0	3.8	9.8	3.9		0
	2800	OTTA	8 S	1731.0	1731.2	.8	14.3	5.0		
	2800	OTTA	26 FAL	1735.0	1800.0	25.0	-11.4	-6.6		
	9400	HUAN	1 S	1746.7	1748.1	5.0	16.9	11.3		L
	8800	SGMR	4 S/F	1747.5	1747.8	2.5	37.0			QL=6 ST=2 TYP=3
	9400	HUAN	3 S	1816.1	1816.9	1.3	19.7	12.0		0
	15400	SGMR	8 S	1816.3	1816.8	1.2	48.0			QL=6 ST=2 TYP=3
	8800	SGMR	8 S	1816.6	1816.8	.7	40.0			QL=6 ST=2 TYP=3
	4995	SGMR	8 S	1816.8	1816.8	.5	19.0			QL=6 ST=2 TYP=3
	2800	OTTA	22 GRF	1817.0	1833.0	135.0	11.4	5.7		
	9400	HUAN	1 S	1833.4	1835.2	3.5	7.0	4.0		0
	9400	HUAN	1 S	1853.9	1854.8	2.7	5.6	1.9		0
	9400	HUAN	20 GRF	1924.5	1937.6	22.5	6.3	4.4		0
	9400	HUAN	2 S/F	1950.1	1953.5	4.4	8.4	5.0		0
	2800	OTTA	8 S	2032.8	2032.9	.2	2.8			
	2695	PENT	4 S/F	2206.0	2209.5	6.0	48.0	15.0		
	9400	TYKW	20 GRF	2245.0	2300.0	40.0	6.0	3.0		
	3750	TYKW	20 GRF	2250.0	2300.0	40.0	2.0	1.0		
	610	LEAR	47 GB	2254.3	2254.5	.3	350.0			QL=6 ST=2 TYP=5
	610	LEAR	8 S	2333.6	2333.6	.2	13.0			QL=6 ST=2 TYP=3
11	208	VORO	44 NS	0000.0E		240.0D		35.0		
	100	GORK	44 NS	0657.0E		283.0D		110.0		
	200	GORK	44 NS	0658.0E		268.0D		15.0		
	127	TORN	44 NS	0730.0E	0848.7	410.0D	11000.0	400.0		V=0
	260	ONDR	44 NS	0800.0E		360.0D	188.0			
	245	SGMR	43 NS	1228.0	1956.6	497.0D	139.0			QL=6 ST=2 TYP=1
	245	PALE	43 NS	1723.1	2057.3	576.9D	450.0			QL=6 ST=2 TYP=1
	245	LEAR	43 NS	2151.0	0011.8	772.0D	200.0			QL=6 ST=2 TYP=1
	410	LEAR	43 NS	2151.0	2201.8	772.0D	150.0			QL=6 ST=2 TYP=1
	3750	TYKW	21 GRF	0005.0	0050.0	110.0	6.0	3.0		
	9400	TYKW	5 S	0006.0	0006.9	1.5	15.0	6.0		
	245	LEAR	8 S	0007.1	0007.1	.2	26.0			QL=6 ST=2 TYP=3
	410	LEAR	8 S	0007.1	0007.1	.2	17.0			QL=6 ST=2 TYP=3
	9400	TYKW	29 PBI	0007.5		7.0	5.0	2.0		
	8800	LEAR	8 S	0016.3	0016.8	.8	16.0			QL=6 ST=2 TYP=3
	9400	TYKW	45 C	0027.0	0032.0	8.0U	32.0	10.0U		RAIN
	1000	TYKW	45 C	0027.0	0034.0	12.0	6.0	2.5		
	3750	TYKW	45 C	0028.0	0032.2	15.0	21.0	6.0		
	2000	TYKW	45 C	0028.0	0032.3	9.0	15.0	6.0		
	610	PALE	4 S/F	0030.1	0030.8	4.2	39.0			QL=6 ST=2 TYP=3
	17000	NOBE	1 S	0030.3	0032.1	10.0	25.0			L
	500	HIRA	45 C	0030.4	0031.6	5.3	15.0	6.0		0
	15400	LEAR	4 S/F	0030.8	0031.8	4.5	32.0			QL=6 ST=2 TYP=3
	4995	LEAR	4 S/F	0030.8	0031.8	4.5	28.0			QL=6 ST=2 TYP=3
	8800	LEAR	4 S/F	0030.8	0032.0	4.5	33.0			QL=6 ST=2 TYP=3
	610	LEAR	4 S/F	0031.1	0031.8	2.9	28.0			QL=6 ST=2 TYP=3
	2695	LEAR	4 S/F	0031.3	0033.1	4.0	27.0			QL=6 ST=2 TYP=3
	1415	LEAR	4 S/F	0032.1	0033.6	3.0	11.0			QL=6 ST=2 TYP=3
	410	LEAR	8 S	0033.3	0033.5	.3	20.0			QL=6 ST=2 TYP=3
	9400	TYKW	30 PBI	0035.0U		35.0U	10.0U	5.0U		
	610	PALE	47 GB	0048.0	0048.1	.6	380.0			QL=6 ST=2 TYP=5
	500	HIRA	8 S	0048.9	0049.2	.3	100.0			0
	9400	TYKW	45 C	0049.0	0049.4	1.5	10.0	3.0		
	410	LEAR	47 GB	0049.1	0049.3	.5	84.0			QL=6 ST=2 TYP=5
	610	LEAR	47 GB	0049.1	0049.3	.5	280.0			QL=6 ST=2 TYP=5
	2000	TYKW	5 S	0049.2	0049.4	.6	6.0	1.5		
	9400	TYKW	5 S	0113.5	0114.5	2.5	15.0	7.0		
	8800	LEAR	8 S	0114.1	0114.5	.5	17.0			QL=6 ST=2 TYP=3
	9400	TYKW	29 PBI	0116.0		15.0	5.0	2.0		
	3750	TYKW	45 C	0119.0	0121.3	15.0	6.0	2.5		

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
11	3750	TYKW	5	S	0141.0	0141.5	2.0	10.0	3.0		
	9400	TYKW	5	S	0141.0	0141.5	2.0	30.0	10.0		
	2000	TYKW	5	S	0141.0	0141.6	2.0	6.0	2.0		
	500	HIRA	8	S	0141.0	0141.0	.4	400.0			0
	610	PALE	47	GB	0141.0	0141.1	1.0	160.0			QL=6 ST=2 TYP=5
	245	PALE	49	GB	0141.0	0141.5	1.1	690.0			QL=6 ST=2 TYP=6
	410	LEAR	49	GB	0141.1	0141.3	.7	1000.0			QL=6 ST=2 TYP=6
	610	LEAR	47	GB	0141.1	0141.3	.5	110.0			QL=6 ST=2 TYP=5
	410	PALE	49	GB	0141.1	0141.5	1.9	1100.0			QL=6 ST=2 TYP=6
	8800	LEAR	8	S	0141.1	0141.5	.7	26.0			QL=6 ST=2 TYP=3
	15400	LEAR	8	S	0141.1	0141.5	.7	17.0			QL=6 ST=2 TYP=3
	1415	LEAR	8	S	0141.1	0141.6	1.0	9.0			QL=6 ST=2 TYP=3
	2695	LEAR	8	S	0141.1	0141.8	.7	4.0			QL=6 ST=2 TYP=3
	200	HIRA	8	S	0141.2	0141.4	.6	1250.0			WL
	4995	LEAR	8	S	0141.3	0141.5	.3	21.0			QL=6 ST=2 TYP=3
	245	LEAR	49	GB	0141.3	0141.5	.5	570.0			QL=6 ST=2 TYP=6
	1000	TYKW	5	S	0141.3	0141.6	1.2	5.0	1.5		
	3750	TYKW	21	GRF	0239.0	0248.0	50.0	4.0	2.0		
	9400	TYKW	5	S	0240.0	0248.0	22.0	6.0	3.0		
	15400	LEAR	8	S	0248.8	0249.0	.3	18.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	0248.8	0249.1	.5	11.0			QL=6 ST=2 TYP=3
	9400	TYKW	5	S	0310.5	0311.7	3.5	9.0	5.0		
	2000	TYKW	5	S	0311.0	0311.7	1.0	7.0	1.5		
	3750	TYKW	5	S	0311.0	0311.8	3.0	26.0	7.0		
	2695	LEAR	49	GB	0311.1	0311.6	1.2	520.0			QL=6 ST=2 TYP=6
	8800	LEAR	4	S/F	0311.1	0311.6	2.5	11.0			QL=5 ST=2 TYP=3
	4995	LEAR	4	S/F	0311.1	0312.3	2.5	11.0			QL=6 ST=2 TYP=3
	9400	TYKW	29	PBI	0314.0		10.0	3.0	1.5		
	3750	TYKW	28	PRE	0342.0	0437.0	55.0	6.0	3.0		
	2000	TYKW	28	PRE	0345.0	0422.0	53.0	3.0	1.5		
	3750	TYKW	45	C	0348.0	0357.3	25.0	16.0	5.0		
	9400	TYKW	5	S	0355.0	0403.3	20.0	8.0	3.0		
	4995	LEAR	4	S/F	0356.6	0357.1	3.0	13.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0356.6	0357.1	3.0	10.0			QL=5 ST=2 TYP=3
	3750	TYKW	5	S	0417.0	0419.4	15.0	4.0	1.5		
	9400	TYKW	5	S	0417.5	0420.0	10.0	5.0	2.0		
	410	LEAR	8	S	0431.6	0431.8	.5	20.0			QL=6 ST=2 TYP=3
	9400	TYKW	47	GB	0435.0	0441.6	45.0	664.0	140.0		
	9400	TYKW			0435.0	0453.4		628.0			
	9395	PEKG	47	GB	0436.0	0441.7	26.0	691.4			
	9395	PEKG			0436.0	0453.4		630.6			
	3750	TYKW	45	C	0437.0	0441.6	33.0	370.0	65.0		
	3750	TYKW			0437.0	0457.0		165.0			
	2840	PEKG	46	C	0437.0	0441.6	31.0	252.0	42.4		
	2840	PEKG			0437.0	0453.5		31.1			
	17000	NOBE	45	C	0437.6	0441.7	36.0	590.0			0
	4995	MANI	49	GB	0437.6	0451.0	88.4	550.0			QL=6 ST=3 TYP=6
	17000	NOBE			0437.6	0453.5		464.0			0
	4995	MANI	47	GB	0437.7	0441.0	24.3	552.0	184.0		
	8800	LEAR	49	GB	0437.8	0441.5	21.2	640.0			QL=6 ST=2 TYP=6
	2000	TYKW	45	C	0438.0	0441.8	30.0	229.0	25.0		
	2000	TYKW			0438.0	0453.4		42.0			
	1415	MANI	4	S/F	0438.0	0441.0	23.0	93.6	31.2		
	1415	MANI	47	GB	0438.1	0451.0	83.9	93.0			QL=6 ST=3 TYP=5
	4995	LEAR	47	GB	0438.5	0441.5	20.5	420.0			QL=6 ST=2 TYP=5
	15400	LEAR	49	GB	0438.5	0441.5	20.5	610.0			QL=6 ST=2 TYP=6
	100	HIRA	7	C	0438.8		3.9	10000.00	2300.00		
	2695	LEAR	47	GB	0438.8	0441.5	7.0	280.0			QL=6 ST=2 TYP=5
	1000	TYKW	5	S	0439.0	0442.0	10.0	104.0	25.0		
	35000	NAGO	45	C	0439.0	0441.0	43.0	165.0			
	200	HIRA	7	C	0439.1	0439.5	3.0	2720.0	350.0		WL
	1415	LEAR	47	GB	0439.1	0441.5	6.7	169.0			QL=6 ST=2 TYP=5
	500	HIRA	45	C	0439.2	0443.4	10.0	32.0	15.0		0
	245	LEAR	47	GB	0439.3	0439.5	9.3	400.0			QL=6 ST=2 TYP=5
	410	LEAR	47	GB	0439.3	0440.3	6.5	200.0			QL=6 ST=2 TYP=5
	610	LEAR	4	S/F	0439.8	0441.3	5.2	40.0			QL=6 ST=2 TYP=3
	1000	TYKW	45	C	0451.0	0453.7	13.0	22.0	6.0		
	200	HIRA	46	C	0451.4	0453.4	8.0	90.0	30.0		WL
	500	HIRA	45	C	0452.6	0453.0	6.0	12.0	3.0		0
	2695	LEAR	47	GB	0459.0	0459.1	1.3	280.0			QL=6 ST=2 TYP=5
	4995	LEAR	47	GB	0459.0	0459.1	9.5	420.0			QL=6 ST=2 TYP=5

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
11	15400	LEAR	49	GB	0459.0	0459.1	23.6	630.0			QL=6 ST=2 TYP=6
	8800	LEAR	49	GB	0459.0	0459.1	18.1	640.0			QL=6 ST=2 TYP=6
	9395	PEKG	29	PBI	0502.0		13.0	36.3			
	2000	TYKW	30	PBI	0508.0		100.0	3.0	1.5		
	3750	TYKW	30	PBI	0510.0		100.0	16.0	8.0		
	9400	TYKW	30	PBI	0520.0		50.0	16.0	5.0		
	9400	TYKW	5	S	0523.0	0523.2	.5	9.0	3.0		
	2000	TYKW	21	GRF	0543.0	0555.0	60.0	5.0	2.0		
	9400	TYKW	5	S	0544.0	0544.5	3.0	36.0	6.0		
	2000	TYKW	5	S	0544.0	0544.6	1.0	6.0	2.0		
	3750	TYKW	45	C	0544.0	0544.6	5.0	102.0	12.0		
	4995	LEAR	47	GB	0544.0	0544.5	.8	130.0			QL=6 ST=2 TYP=5
	2840	PEKG	3	S	0544.0	0544.6	2.0	39.1	9.8		
	2695	LEAR	8	S	0544.1	0544.5	.7	32.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	0544.3	0544.5	.5	46.0			QL=6 ST=2 TYP=3
	3750	TYKW	45	C	0550.0	0550.4	1.0	25.0	10.0		
	2000	TYKW	5	S	0550.0	0550.4	1.0	15.0	5.0		
	2695	LEAR	8	S	0550.1	0550.3	.7	29.0			QL=6 ST=2 TYP=3
	9400	TYKW	5	S	0553.0	0553.2	1.0	16.0	3.0		
	100	GORK	27	RF	0712.0	0731.5U	23.7	930.0D			
	9100	GORK	21	GRF	0712.0	0858.1	224.0	15.0			
	6100	KISV	20	GRF	0812.5	0814.7	10.0	6.0			
	810	KRAK	8	S	0817.2	0817.3	.2	11.0			
	430	KRAK	8	S	0817.3	0817.4	.2	13.0			
	200	GORK	27	RF	0827.5	0839.3	17.2	55.0			
	100	GORK	4	S/F	0829.6	0838.8	15.0	920.0			
	100	GORK	4	S/F	0906.9	0914.0U	10.9	760.0D			
	430	KRAK	42	SER	0912.0	1030.5	150.0	41.0			
	536	ONDR	42	SER	0929.0	0951.0	23.0	42.0			
	410	LEAR	8	S	0937.8	0938.0	.3	38.0			QL=6 ST=2 TYP=3
	810	KRAK	8	S	0937.8	0938.0	.2	19.0			
	610	LEAR	47	GB	0937.8	0938.1	2.8	59.0			QL=6 ST=2 TYP=5
	650	GORK	41	F	0938.0	0938.2	2.5	19.0			
	650	GORK			0938.0	0940.3		11.0			
	950	GORK	21	GRF	0944.0	0952.4	11.3	3.0			
	4995	ATHN	47	GB	0946.3	0951.1	15.5	64.0			QL=2 ST=2 TYP=5
	6100	KISV			0947.9	0948.4		5.0			
	6100	KISV			0947.9	0950.2		9.0			
	6100	KISV	46	C	0947.9	0950.8	7.5	15.0			
	6100	KISV			0947.9	0953.5		6.0			
	8800	ATHN	4	S/F	0948.1	0951.1	7.0	15.0			QL=6 ST=2 TYP=3
	810	KRAK	42	SER	0948.5	0949.3	2.2	490.0			
	808	ONDR	46	C	0949.0	0949.5	3.0	115.0D			
	410	LEAR	8	S	0949.1	0949.1	2.0	22.0			QL=6 ST=2 TYP=3
	930	BORD	46	C	0949.4	0949.4	1.6	187.0	4.0		
	2950	GORK	4	S/F	0949.7	0950.9	2.7	58.0			
	1470	POTS	4	S/F	0949.7	0951.0	3.3	21.0			
	1470	POTS			0949.7	0951.2					
	2695	LEAR	47	GB	0949.8	0950.6	1.5	66.0			QL=6 ST=2 TYP=5
	9100	GORK	2	S/F	0949.8	0950.6	2.1	23.0			
	3000	POTS	4	S/F	0949.8	0950.8	2.7	48.0			
	950	GORK	46	C	0949.9	0950.2	2.2	13.0			
	950	GORK			0949.9	0950.8		14.0			
	3100	BERN	45	C	0949.9	0950.8	3.0	39.0			ONLY PAPER REC
	9500	POTS	2	S/F	0949.9	0951.7	2.1	10.0			
	2650	DWIN	2	S/F	0950.0	0951.0	1.0	55.0	3.0		
	1415	LEAR	8	S	0950.0	0951.1	1.5	32.0			QL=6 ST=2 TYP=3
	2695	ATHN	47	GB	0950.1	0951.1	3.5	54.0			QL=2 ST=2 TYP=5
	1415	ATHN	4	S/F	0950.1	0951.1	3.5	15.0			QL=2 ST=2 TYP=3
	4995	LEAR	8	S	0950.6	0950.6	.4	21.0			QL=6 ST=2 TYP=3
	610	LEAR	47	GB	0950.6	0950.6	.5	169.0			QL=6 ST=2 TYP=5
	650	GORK	45	C	0950.6	0950.7	1.4	105.0			
	650	GORK			0950.6	0951.1		60.0			
	536	ONDR	8	S	1048.5	1048.5	.5	7.0			
	234	POTS	4	S/F	1302.4	1302.5	.3	250.0	15.0		
	2800	OTTA	21	GRF	1330.0	1440.0	230.0D	17.0			
	9400	HUAN	22	GRF	1411.5	1446.5U	69.0	13.4	9.3		0
	2800	OTTA	8	S	1431.5	1431.5	.5	4.6	2.3		
	9400	HUAN	2	S/F	1535.0	1536.5	3.9	4.0	2.0		0
	2800	OTTA	3	S	1536.3	1536.9	2.0	22.0	7.2		
	2800	OTTA	20	GRF	1546.0	1549.0	15.0	5.6	2.8		

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
11	9400	HUAN	2	S/F	1614.1	1616.7	4.3	4.7	2.2		0
	2800	OTTA	8	S	1809.2	1809.2	.1	5.6			
	9400	HUAN	2	S/F	1824.2	1825.6	3.2	5.4	3.8		0
	9400	HUAN	1	S	1833.5	1835.0	3.1	14.8	6.0		R
	8800	PALE	8	S	1834.1	1834.8	1.2	24.0			QL=6 ST=2 TYP=3
	2800	OTTA	21	GRF	1910.0	1920.0	45.0	3.0	2.0		
	2800	OTTA	1	S	1932.0	1934.0	5.0	2.8	1.4		
	2695	PENT	20	GRF	2055.0	2115.0	95.0	13.0	8.9		
	9400	HUAN	2	S/F	2055.5	2056.6	3.1	10.8	5.9		R
	610	PALE	4	S/F	2056.0	2102.6	23.3	19.0			QL=6 ST=2 TYP=3
	9400	HUAN	8	S	2113.2	2113.6	.8	18.8	5.7		R
	3750	TYKW	45	C	2337.5	2338.9	4.5	48.0	18.0		
	9400	TYKW	5	S	2338.0	2338.9	6.0	31.0	13.0		
	4995	LEAR	47	GB	2338.1	2338.8	3.5	57.0			QL=6 ST=2 TYP=5
	8800	LEAR	4	S/F	2338.3	2338.8	2.3	44.0			QL=5 ST=3 TYP=3
	2695	LEAR	8	S	2338.8	2338.8	.3	11.0			QL=6 ST=2 TYP=3
	3750	TYKW	29	PBI	2342.0		15.0	9.0	3.5		
	9400	TYKW	29	PBI	2344.0		12.0	8.0	3.0		
12	208	VORO	44	NS	0000.0E		240.00		28.0		
	100	HIRA	44	NS	0016.0E	0514.0	430.00	1800.0	1100.0		ML
	200	HIRA	44	NS	0016.0E	0520.0	430.00	70.0	50.0		ML
	100	GORK	44	NS	0625.0E		314.00		80.0		
	200	GORK	44	NS	0626.0E		314.00		10.0		
	204	IZMI	43	NS	0700.0		300.0	20.0			
	127	TORN	44	NS	0730.0E	0743.3	410.00	1100.0	210.0		V=0
	260	ONDR	44	NS	0820.0E		295.00	91.0			
	200	HIRA	44	NS	2140.0E	0519.0	580.00	180.0	125.0		ML
	100	HIRA	44	NS	2140.0E	0532.0	580.00	2300.0	1200.0		ML
	245	LEAR	43	NS	2152.0	2311.5	772.00	200.0			QL=6 ST=2 TYP=1
	410	LEAR	43	NS	2152.0	2336.6	772.00	68.0			QL=6 ST=2 TYP=1
	3750	TYKW	21	GRF	0050.0	0138.0	160.0	5.0	2.5		
	2000	TYKW	21	GRF	0050.0	0143.0	230.0	4.0	2.0		
	1000	TYKW	21	GRF	0050.0	0155.0	230.0	5.0	2.5		
	500	HIRA	20	GRF	0110.0	0204.0	207.0	8.0	3.0		0
	17000	NOBE	1	S	0114.7	0114.9	.5	12.0			0
	3750	TYKW	28	PRE	0142.0	0145.0	3.0	3.0	1.5		
	8800	PALE	47	GB	0142.1	0143.5	5.9	139.0			QL=6 ST=2 TYP=5
	610	LEAR	8	S	0142.3	0142.5	.3	16.0			QL=6 ST=2 TYP=3
	4995	PALE	47	GB	0143.0	0144.1	3.0	80.0			QL=6 ST=2 TYP=5
	9395	PEKG	3	S	0144.0	0146.5	5.0	98.1	28.3		
	3750	TYKW	5	S	0145.0	0146.4	5.0	51.0	16.0		
	9400	TYKW	5	S	0145.0	0146.5	5.0	111.0	36.0		
	2840	PEKG	3	S	0145.0	0146.5	7.0	30.7	12.5		
	4995	LEAR	47	GB	0145.1	0146.3	5.2	70.0			QL=6 ST=2 TYP=5
	17000	NOBE	1	S	0145.4	0146.4	8.0	42.0			R
	8800	LEAR	47	GB	0145.6	0146.3	4.7	130.0			QL=5 ST=2 TYP=5
	15400	LEAR	47	GB	0145.6	0146.3	4.7	50.0			QL=6 ST=2 TYP=5
	2000	TYKW	5	S	0146.0	0147.0	3.0	7.0	3.0		
	15400	PALE	4	S/F	0146.0	0146.3	3.0	42.0			QL=6 ST=2 TYP=3
	2695	LEAR	4	S/F	0146.1	0146.3	3.4	22.0			QL=6 ST=2 TYP=3
	2000	TYKW	30	PBI	0149.0		20.0	3.0	1.5		
	3750	TYKW	30	PBI	0150.0		55.0	7.0	3.0		
	9400	TYKW	29	PBI	0150.0		35.0	8.0	4.0		
	2000	TYKW	5	S	0152.0	0158.0	15.0	2.0	1.0		
	2000	TYKW	21	GRF	0215.0	0235.0	115.0	2.0	1.0		
	3750	TYKW	5	S	0220.0	0222.4	6.0	3.0	1.0		
	1000	TYKW	21	GRF	0220.0	0258.0	75.0	2.0	1.0		
	1000	TYKW	45	C	0248.0	0248.9	3.0	25.0	1.5		
	2000	TYKW	45	C	0248.0	0249.1	5.0	10.0	4.0		
	2695	LEAR	4	S/F	0248.1	0249.0	3.4	11.0			QL=6 ST=2 TYP=3
	3750	TYKW	45	C	0248.5	0249.0	3.00	9.0	5.00		
	9400	TYKW	45	C	0248.5	0249.8	3.5	11.0	6.0		
	15400	LEAR	4	S/F	0248.8	0250.1	2.3	11.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0248.8	0250.1	2.8	11.0			QL=5 ST=2 TYP=3
	610	LEAR	8	S	0249.0	0249.1	.3	20.0			QL=6 ST=2 TYP=3
	4995	LEAR	8	S	0249.0	0250.1	1.8	7.0			QL=6 ST=2 TYP=3
	1415	LEAR	8	S	0249.1	0250.3	1.9	6.0			QL=6 ST=2 TYP=3
	9400	TYKW	29	PBI	0252.0		40.0	5.0	2.0		
	2000	TYKW	29	PBI	0253.0		60.0	3.0	1.5		
	3750	TYKW	30	PBI	0253.0E		35.00	3.00	1.50		

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
12	3750	TYKW	5	S	0308.0	0309.0	5.0	3.0	1.0		
	3750	TYKW	20	GRF	0336.0	0337.5	35.0	3.0	1.5		
	3750	TYKW	20	GRF	0458.0	0513.0	55.0	5.0	2.0		
	9395	PEKG	45	C	0458.0	0459.9	12.0	27.9	5.9		
	9400	TYKW	45	C	0458.5	0459.9	7.5	24.0	6.0		
	8800	LEAR	8	S	0459.5	0459.8	.6	30.0			QL=5 ST=2 TYP=3
	2000	TYKW	20	GRF	0500.0	0513.0	50.0	3.0	1.5		
	8800	LEAR	8	S	0504.6	0505.0	1.4	27.0			QL=5 ST=2 TYP=3
	9400	TYKW	30	PBI	0506.0		25.0	6.0	3.0		
	9400	TYKW	5	S	0524.0	0524.2	.5	10.0	3.0		
	610	LEAR	47	GB	0552.3	0552.3	.5	67.0			QL=6 ST=2 TYP=5
	6100	KISV	28	PRE	0623.5	0625.5	12.5	11.0			
	3750	TYKW	5	S	0629.0	0630.4	4.0	17.0	4.0		
	9395	PEKG	1	S	0629.0	0630.5	3.0	9.3	2.2		
	9400	TYKW	5	S	0629.5	0630.4	2.0	6.0	2.0		
	2840	PEKG	3	S	0629.5	0630.4	2.0	14.6	7.9		
	6100	KISV	3	S	0629.6	0630.4	4.0	12.0			
	4995	LEAR	8	S	0629.8	0630.3	1.0	23.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	0630.0	0630.3	.5	18.0			QL=5 ST=2 TYP=3
	6100	KISV	46	C	0635.8	0638.6	6.5	41.0			
	6100	KISV			0635.8	0640.5		32.0			
	6100	KISV			0635.8	0642.0		28.0			
	9400	TYKW	45	C	0637.0	0640.1	6.0	21.0	9.0		
	3750	TYKW	45	C	0637.0	0642.2	15.0U	13.0	5.0U		
	9395	PEKG	45	C	0637.0	0640.0	6.0	25.8	11.8		
	4995	LEAR	4	S/F	0637.3	0640.5	12.5	32.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0638.1	0640.0	6.0	39.0			QL=5 ST=2 TYP=3
	200	GORK	27	RF	0639.5	0645.0	15.2	20.0			
	6100	KISV	29	PBI	0642.3	0642.5	27.5	26.0			
	9400	TYKW	29	PBI	0643.0		15.0U	6.0	3.0U		
	9395	PEKG	29	PBI	0643.0	0646.8	22.0	13.9	8.9		
	6100	KISV	1	S	0654.8	0655.2	1.0	4.0			
	200	GORK	27	RF	0712.9	0721.0	16.4	30.0			
	100	GORK	4	S/F	0715.4	0723.0	12.8	780.0			
	100	GORK	4	S/F	0742.4	0751.5	13.3	760.0			
	430	KRAK	42	SER	0822.0	1050.4	336.0D	100.0			
	430	KRAK			0822.0	1322.0		67.0			
	6100	KISV	21	GRF	0943.0	0955.3	30.0	7.0			
	650	GORK	20	GRF	1014.2	1018.5	9.8	4.0	2.0		
	204	IZMI	3	S	1027.5	1027.7	1.0	310.0	160.0		
	810	KRAK	8	S	1041.2	1041.3	.1	7.0			
	6100	KISV	4	S/F	1154.8	1156.3	2.5	27.0			
	9400	HUAN	4	S/F	1155.1	1156.3	2.5	28.9	12.4		R
	8400	BERN	3	S	1155.3	1156.4	4.0	37.0			ONLY PAPER REC
	3100	BERN	4	S/F	1155.3	1156.4	4.0	12.0			ONLY PAPER REC
	5200	BERN	3	S	1155.3	1156.4	4.0	29.0			ONLY PAPER REC
	3000	POTS	4	S/F	1155.5	1155.6	2.0	16.0			
	1470	POTS	1	S	1155.5	1156.0	1.0	5.0			
	9500	POTS	3	S	1155.5	1156.1	3.0	32.0			
	6100	KISV	29	PBI	1157.3	1157.3	3.0D	8.0			
	536	ONDR	42	SER	1235.0	1235.0	1.0	32.0			
	810	KRAK	8	S	1302.5	1302.6	.3	15.0			
	810	KRAK	8	S	1322.0	1322.5	1.0	300.0			
	3000	POTS	3	S	1322.0	1322.5	3.0	47.0			
	1470	POTS	3	S	1322.0	1322.8	3.0	52.0			
	610	SGMR	47	GB	1322.1	1322.3	1.0	68.0			QL=6 ST=2 TYP=5
	930	BORD	46	C	1322.2	1322.4	2.0	41.0	5.0		
	9400	HUAN	3	S	1322.2	1322.6	1.4	31.7	10.2		L
	3100	BERN	3	S	1322.2	1322.6	4.0	40.0			ONLY PAPER REC
	5200	BERN	3	S	1322.2	1322.6	4.0	60.0			ONLY PAPER REC
	9500	POTS	3	S	1322.3	1322.5	.7	27.0			
	4995	SGMR	8	S	1322.3	1322.5	.7	47.0			QL=6 ST=2 TYP=3
	8800	SGMR	8	S	1322.3	1322.5	.5	47.0			QL=6 ST=2 TYP=3
	410	SGMR	47	GB	1322.3	1322.5	.5	58.0			QL=6 ST=2 TYP=5
	2695	SGMR	47	GB	1322.3	1322.5	1.3	62.0			QL=6 ST=2 TYP=5
	1415	SGMR	47	GB	1322.3	1322.6	1.0	66.0			QL=6 ST=2 TYP=5
	2800	OTTA	3	S	1322.5	1322.7	2.0	42.6	11.0		
	9400	HUAN	29	PBI	1323.6	1323.6	30.9	4.1	1.5		0
	9400	HUAN	20	GRF	1754.5	1801.8	21.1	4.8	1.4		0
	2800	OTTA	20	GRF	1958.0	2000.0	15.0	3.2	1.5		
	9400	HUAN	2	S/F	2021.7	2023.5	4.3	5.5	3.9		0

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
12	2695	PENT	1	S	2224.0	2224.2	2.0	5.4	2.7		
	500	HIRA	20	GRF	2304.0	2337.9	72.0	10.0	4.0		0
	1000	TYKW	45	C	2305.0	2305.7	2.0	12.0	3.0		
	9400	TYKW	5	S	2317.5	2320.3	20.0	5.0	2.0		
	2000	TYKW	21	GRF	2345.0	0035.0	150.0	4.0	2.0		
	3750	TYKW	21	GRF	2345.0	0055.0	150.0	5.0	2.5		
13	208	VORO	44	NS	0000.0E		240.0D		89.0		
	100	GORK	44	NS	0600.0E		321.0D		150.0		
	204	IZMI	43	NS	0700.0		300.0	20.0			
	127	TORN	44	NS	0730.0E	0729.4	410.0D	9000.0	600.0		V=0
	260	ONDR	44	NS	0807.0E		350.0D	71.0			
	245	SGMR	43	NS	1230.0	1500.6		45.0			QL=6 ST=1 TYP=1
	245	SGMR	43	NS	1230.0	1953.1	495.0	78.0			QL=6 ST=1 TYP=1
	200	HIRA	44	NS	2140.0E	0215.0	580.0D	45.0	40.0		ML
	100	HIRA	44	NS	2140.0E	0547.0	580.0D	1800.0	1100.0		ML
	245	LEAR	43	NS	2152.0	0909.1	772.0D	57.0			QL=6 ST=2 TYP=1
	9400	TYKW	5	S	0014.0	0014.8	5.0	4.0	1.5		
	4995	LEAR	8	S	0022.8	0023.6	1.8	13.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	0022.8	0023.6	1.8	8.0			QL=6 ST=2 TYP=3
	9400	TYKW	5	S	0023.0	0023.7	1.5	6.0	2.0		
	3750	TYKW	5	S	0108.0	0109.7	4.0	2.0	.7		
	3750	TYKW	21	GRF	0130.0	0145.0	40.0	2.0	1.0		
	245	LEAR	47	GB	0134.1	0134.5	.7	139.0			QL=6 ST=2 TYP=5
	410	LEAR	8	S	0134.3	0134.3	.2	23.0			QL=6 ST=2 TYP=3
	9400	TYKW	45	C	0138.0	0139.6	10.0	18.0	8.0		
	2000	TYKW	20	GRF	0138.0	0158.0	35.0	4.0	2.0		
	8800	LEAR	4	S/F	0139.1	0139.5	3.9	23.0			QL=6 ST=2 TYP=3
	3750	TYKW	5	S	0139.4	0139.7	1.5	2.5	1.0		
	9400	TYKW	29	PBI	0148.0		20.0	4.0	2.0		
	2000	TYKW	28	PRE	0223.0	0323.0	60.0	5.0	2.0		
	9400	TYKW	5	S	0224.5	0224.9	2.0	6.0	2.0		
	9400	TYKW	5	S	0236.0	0237.0	11.0	6.0	2.0		
	8800	LEAR	4	S/F	0236.1	0236.8	8.5	13.0			QL=6 ST=2 TYP=3
	4995	LEAR	4	S/F	0236.1	0237.1	4.0	8.0			QL=6 ST=2 TYP=3
	3750	TYKW	21	GRF	0237.0	0249.0	40.0	3.0	1.5		
	9400	TYKW	5	S	0248.5	0248.7	1.5	3.0	1.0		
	245	LEAR	47	GB	0257.6	0257.6	60.4	239.0			QL=6 ST=2 TYP=5
	410	LEAR	8	S	0257.6	0257.8	.4	4.0			QL=6 ST=2 TYP=3
	9400	TYKW	28	PRE	0302.0	0315.5	18.0	7.0	2.0		
	4995	LEAR	4	S/F	0302.5	0304.6	5.8	11.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0303.1	0304.6	3.5	8.0			QL=6 ST=2 TYP=3
	3750	TYKW	5	S	0303.5	0304.1	3.5	2.0	.7		
	3750	TYKW	45	C	0319.0	0325.8	24.0	330.0	75.0		
	9400	TYKW	47	GB	0320.0	0325.8	25.0	1950.0	250.0		
	4995	LEAR	49	GB	0321.3	0326.3	36.3	570.0			QL=6 ST=2 TYP=7
	8800	LEAR	49	GB	0321.5	0325.6	24.0	1600.0			QL=6 ST=2 TYP=7
	15400	LEAR	49	GB	0322.6	0325.8	44.7	3300.0			QL=6 ST=2 TYP=7
	1000	TYKW	45	C	0323.0	0323.7	17.0	150.0	33.0		
	2000	TYKW	45	C	0323.0	0326.5	19.0	215.0	48.0		
	17000	NOBE	47	GB	0323.2	0325.9	16.8	2830.0			R
	2840	PEKG			0323.5	0326.0	18.0				
	2695	LEAR	49	GB	0323.6	0325.8	16.7	219.0			QL=6 ST=2 TYP=7
	100	HIRA	46	C	0323.7		5.7	10000.0D	3650.0D		
	200	HIRA	46	C	0323.8	0324.6	4.0	350.0	170.0		ML
	245	LEAR	49	GB	0323.8	0325.6	4.0	1600.0			QL=6 ST=2 TYP=7
	1415	LEAR	49	GB	0323.8	0326.5	12.3	200.0			QL=6 ST=2 TYP=7
	500	HIRA	3	S	0324.0	0325.7	11.0	95.0	30.0		WL
	35000	NAGO	49	GB	0324.0	0326.0	6.0	590.0			
	610	LEAR	49	GB	0324.1	0326.6	7.2	90.0			QL=6 ST=2 TYP=7
	410	LEAR	49	GB	0325.3	0326.1	3.8	110.0			QL=6 ST=2 TYP=7
	4995	MANI	47	GB	0326.0	0328.6	12.5	916.8	305.6		
	4995	MANI	49	GB	0326.0	0328.6	12.5	910.0			QL=6 ST=2 TYP=6
	1415	MANI	47	GB	0326.0	0329.1	9.1	139.0			QL=6 ST=2 TYP=5
	1415	MANI	4	S/F	0326.0	0329.1	9.2	142.4	47.5		
	35000	NAGO	29	PBI	0331.0	0331.0	49.0	25.0			
	17000	NOBE	29	PBI	0340.0	0340.0	30.0	41.0			0
	2000	TYKW	30	PBI	0342.0		170.0	10.0	4.0		
	3750	TYKW	30	PBI	0343.0		130.0	21.0	8.0		
	9400	TYKW	29	PBI	0345.0		30.0	33.0	13.0		
	2000	TYKW	21	GRF	0423.0	0428.0	45.0	3.0	1.0		

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
13	9400	TYKW	21	GRF	0423.0	0453.0	65.0	7.0	3.0		
	3750	TYKW	20	GRF	0424.0	0453.0	80.0	8.0	4.0		
	9400	TYKW	5	S	0426.0	0429.5	6.0	4.0	1.5		
	2000	TYKW	5	S	0453.6	0453.8	.5	5.0	1.5		
	2000	TYKW	20	GRF	0532.0	0533.5	30.0	4.0	1.5		
	9400	TYKW	45	C	0608.0	0612.4	15.0	12.0	3.0		
	6100	KISV	42	SER	0608.5	0610.0	8.0	7.0			
	3750	TYKW	5	S	0609.5	0610.1	1.5	9.0	3.0		
	3750	TYKW	29	PBI	0611.0		10.0	2.0	1.0		
	6100	KISV			0611.4	0612.4		7.0			
	6100	KISV			0616.1	0616.2		4.0			
	6100	KISV	2	S/F	0652.2	0653.1	3.5	5.0			
	650	GORK	21	GRF	0728.4	0739.2	34.0	10.0	5.0		
	950	GORK	21	GRF	0739.7	0748.0	23.0	10.0			
	950	GORK	3	S	0747.0	0747.4	.7	45.0			
	650	GORK	4	S/F	0747.1	0747.3	.7	15.0			
	1470	POTS	45	C	0801.0	0807.4	11.0U	78.0			
	6100	KISV			0801.6	0806.5		132.0			
	6100	KISV	45	C	0801.6	0807.2	11.5	229.0			
	9100	GORK	4	S/F	0801.7	0806.7	10.1	390.0			
	3100	CRIM	45	C	0802.0	0805.2	12.0	100.0	50.0		
	3100	CRIM			0802.0	0807.0		146.0			
	4995	ATHN	47	GB	0802.1	0805.1	14.5	130.0			QL=2 ST=2 TYP=5
	9500	POTS	45	C	0802.5		13.0				
	2695	ATHN	47	GB	0802.8	0805.1	11.8	83.0			QL=2 ST=2 TYP=5
	8800	LEAR	47	GB	0802.8	0806.5	37.5	420.0			QL=6 ST=2 TYP=5
	4995	LEAR	47	GB	0802.8	0807.1	25.5	280.0			QL=6 ST=2 TYP=5
	5200	BERN	45	C	0803.0	0807.1	23.0	287.0			
	11800	BERN	45	C	0803.0	0807.1	23.0	440.0			
	19600	BERN	45	C	0803.0	0807.1	23.0	427.0			
	8400	BERN	45	C	0803.0	0807.1	23.0	433.0			
	3100	BERN	45	C	0803.0	0807.2	23.0	120.0			
	3000	IZMI	7	C	0803.0	0807.5	12.0	160.0	80.0		
	15400	LEAR	47	GB	0803.1	0807.1	22.7	239.0			QL=6 ST=2 TYP=5
	2695	LEAR	47	GB	0803.1	0807.1	9.9	139.0			QL=6 ST=2 TYP=5
	8800	ATHN	47	GB	0803.3	0804.8	14.7	139.0			QL=6 ST=2 TYP=5
	1415	ATHN	47	GB	0803.8	0807.3	6.2	64.0			QL=6 ST=2 TYP=5
	1415	LEAR	47	GB	0804.3	0807.1	5.0	80.0			QL=6 ST=2 TYP=5
	950	GORK	4	S/F	0804.5	0807.6	4.3	30.0			
	810	KRAK	3	S	0804.6	0807.0	4.7	15.0	7.0		
	650	GORK	4	S/F	0805.0	0807.8	5.7	11.0			
	610	LEAR	8	S	0807.1	0807.6	.5	13.0			QL=6 ST=2 TYP=3
	950	GORK	29	PBI	0808.8	0809.0	40.0	9.6			
	430	KRAK	1	S	0809.0	0809.7	1.5	9.0	4.0		
	410	LEAR	8	S	0809.0	0810.0	2.0	10.0			QL=6 ST=2 TYP=3
	245	LEAR	47	GB	0809.8	0811.0	5.0	55.0			QL=6 ST=2 TYP=5
	9100	GORK	29	PBI	0811.8	0812.0	102.0	48.0			
	6100	KISV	29	PBI	0813.0	0813.0	80.0	22.0			
	650	GORK	21	GRF	0843.0	0857.0	26.8	4.0			
	650	GORK	21	GRF	0848.0	0857.0	26.8	4.0			
	950	GORK	21	GRF	0856.5	0900.0	16.2	5.0			
	650	GORK	40	F	0906.0	0906.4	1.7	14.0			
	950	GORK	1	S	0907.3	0907.5	.5	7.5			
	930	BORD	8	S	0910.4	0910.5	.4	16.0	2.0		
	3100	CRIM	26	FAL	0912.0	1142.0		18.0			
	6100	KISV	1	S	1120.0	1120.5	1.0	5.0			
	430	KRAK	8	S	1121.1	1121.1	.1	18.0			
	6100	KISV	1	S	1135.0	1135.5	1.0	6.0			
	2650	DWIN	1	S	1323.0	1323.0	1.0	50.0	25.0		
	9400	HUAN	1	S	1413.6	1414.2	2.2	10.0	7.8		0
	9400	HUAN	29	PBI	1415.8	1415.8	8.3	5.7	3.0		0
	9400	HUAN	1	S	1708.0	1709.5	3.0	6.4	3.3		0
	9400	HUAN	21	GRF	1739.8	1747.0	14.3	7.1	5.9		0
	9400	HUAN	3	S	1743.8	1744.4	2.3	21.4	9.0		R
	9400	HUAN	3	S	1801.9	1803.0	2.7	35.6	14.7		R
	2800	OTTA	3	S	1802.0	1803.0	3.0	38.0	13.0		
	4995	SGMR	47	GB	1802.3	1802.8	1.8	110.0			QL=6 ST=2 TYP=5
	8800	SGMR	8	S	1802.6	1802.8	.7	49.0			QL=6 ST=2 TYP=3
	2695	SGMR	8	S	1802.6	1803.0	1.2	33.0			QL=6 ST=2 TYP=3
	2800	OTTA	29	PBI	1805.0	1805.0	13.0	5.6	2.8		
	9400	HUAN	21	GRF	1824.6	1900.5	64.8	8.5	3.5		0

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
13	2800	OTTA	20	GRF	1850.0	1900.0	30.0	4.4	2.2		
	9400	HUAN	1	S	1902.0	1903.2	2.0	4.3	3.7		0
	9400	HUAN	45	C	1951.2	1952.4U	4.6	259.2	123.6		R
	2800	OTTA	46F	C	1951.5	1955.0	9.5	90.0	57.0		
	15400	SGMR	47	GB	1951.6	1952.0	4.2	320.0			QL=6 ST=2 TYP=5
	4995	PALE	47	GB	1951.6	1952.0	6.4	160.0			QL=6 ST=2 TYP=5
	2695	SGMR	47	GB	1951.6	1952.0	8.7	60.0			QL=6 ST=2 TYP=5
	1415	PALE	47	GB	1951.6	1952.0	7.9	71.0			QL=6 ST=2 TYP=5
	1415	SGMR	47	GB	1951.6	1952.0	5.4	51.0			QL=6 ST=2 TYP=5
	4995	SGMR	47	GB	1951.6	1952.0	10.5	230.0			QL=6 ST=2 TYP=5
	8800	SGMR	47	GB	1951.6	1952.0	9.4	480.0			QL=6 ST=2 TYP=5
	15400	PALE	47	GB	1951.8	1952.0	3.2	280.0			QL=6 ST=2 TYP=5
	245	PALE	8	S	1953.0	1953.1	.3	42.0			QL=6 ST=2 TYP=3
	610	PALE	8	S	1954.8	1955.0	.3	16.0			QL=6 ST=2 TYP=3
	610	SGMR	8	S	1954.8	1955.0	.5	21.0			QL=6 ST=2 TYP=3
	9400	HUAN	30	PBI	1955.8	1955.8	35.4	59.8	23.1		R
	9400	HUAN	1	S	1958.7	1959.4	2.2	12.8	10.5		0
	2800	OTTA	30	PBI	2001.0	2001.0	40.0	13.4	5.0		
	2695	PENT	20	GRF	2011.0	2014.0	11.0	6.6	3.3		
	410	PALE	8	S	2022.3	2022.3	.5	40.0			QL=6 ST=2 TYP=3
	245	PALE	8	S	2022.3	2022.5	.3	26.0			QL=6 ST=2 TYP=3
	410	PALE	47	GB	2024.6	2024.6	2.0	58.0			QL=6 ST=2 TYP=5
	245	PALE	8	S	2024.6	2024.6	.5	30.0			QL=6 ST=2 TYP=3
	2695	PENT	20	GRF	2100.0	2117.0	60.0	10.0	5.0		
	9400	TYKW	21	GRF	2325.0	2356.0	105.0	4.0	2.0		
14	208	VORO	44	NS	0000.0E		240.0D		26.0		
	221	ABST	44	NS	0600.0E	0747.2	180.0D	27.0			
	200	GORK	44	NS	0617.0E		301.0D		10.0		
	100	GORK	44	NS	0617.0E		283.0D		65.0		
	127	TORN	44	NS	0730.0E		410.0D		151.0		V=0
	260	ONDR	44	NS	0817.0E		327.0D	27.0			
	245	PALE	43	NS	1720.0	1937.3	600.0D	40.0			QL=6 ST=2 TYP=1
	100	HIRA	44	NS	2140.0E	0000.0	580.0D	2000.0	435.0		WL
	200	HIRA	44	NS	2140.0E	0143.0	580.0D	60.0	25.0		ML
	3000	POTS	8	S	0000.0			34.0			
	9400	TYKW	5	S	0000.0	0000.7	3.0	13.0	6.0		
	410	LEAR	47	GB	0000.1	0000.3	1.2	60.0			QL=6 ST=2 TYP=5
	15400	LEAR	8	S	0000.1	0000.5	1.5	11.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0000.1	0000.6	6.7	18.0			QL=6 ST=2 TYP=3
	4995	LEAR	20	GRF	0000.1	0001.3	6.7	13.0			QL=6 ST=2 TYP=2
	9400	TYKW	29	PBI	0003.0		15.0	3.0	1.5		
	200	HIRA	46	C	0011.3	0012.0	3.0	310.0	140.0		WL
	9400	TYKW	20	GRF	0020.0	0029.0	45.0	6.0	2.0		
	2000	TYKW	20	GRF	0020.0	0034.0	60.0	4.0	2.0		
	3750	TYKW	21	GRF	0020.0	0034.0	50.0	3.0	1.5		
	3750	TYKW	5	S	0058.0	0058.3	1.0	2.0	.7		
	3750	TYKW	5	S	0122.0	0129.5	20.0	3.0	1.5		
	8800	PALE	47	GB	0129.1	0129.6	4.2	210.0			QL=6 ST=2 TYP=5
	3750	TYKW	5	S	0206.0	0206.8	2.0	4.0	1.5		
	3750	TYKW	5	S	0324.0	0327.0	10.0	2.0	1.0		
	1415	MANI	47	GB	0336.6	0340.1	6.4	93.0			QL=6 ST=2 TYP=5
	4995	MANI	20	GRF	0338.3	0340.6	6.0	71.0			QL=6 ST=2 TYP=2
	2000	TYKW	5	S	0545.0	0546.3	3.0	17.0	5.0		
	2000	TYKW	29	PBI	0548.0		6.0	2.0	1.0		
	950	GORK	21	GRF	0711.5	0720.5	18.7	5.7			
	650	GORK	23	GRF	0726.5	0742.0	44.7	11.0			
	950	GORK	2	S/F	0726.9	0727.5	1.5	19.7			
	2950	GORK	23	GRF	0727.0E	0747.0	160.0D	17.6			
	1415	LEAR	8	S	0727.8	0727.8	.3	34.0			QL=6 ST=2 TYP=3
	200	GORK	4	S/F	0732.6	0738.0	9.5	75.0			
	9100	GORK	21	GRF	0732.7	0744.4	126.0	25.0			
	950	GORK	45	C	0733.5	0733.9	1.0	32.0			
	9100	GORK	2	S/F	0733.5	0733.9	1.2	23.0			
	950	GORK			0733.5	0734.1		20.0			
	2695	LEAR	4	S/F	0733.6	0733.8	2.7	10.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	0733.6	0733.8	2.0	30.0			QL=6 ST=2 TYP=3
	1415	LEAR	8	S	0733.6	0733.8	1.0	34.0			QL=6 ST=2 TYP=3
	4995	LEAR	8	S	0733.6	0734.1	2.0	17.0			QL=6 ST=2 TYP=3
	1415	ATHN	47	GB	0734.3	0740.1	8.3	100.0			QL=2 ST=2 TYP=5
	4995	ATHN	47	GB	0734.3	0740.8	11.8	100.0			QL=2 ST=2 TYP=5

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
14	8800	ATHN	4	S/F	0734.6	0740.8	15.0	37.0			QL=6 ST=2 TYP=3
	2695	ATHN	4	S/F	0734.6	0740.8	12.0	45.0			QL=2 ST=2 TYP=3
	950	GORK	21	GRF	0735.5	0748.0	25.8	7.0			
	650	GORK	4	S/F	0736.5	0738.6	5.5	10.0			
	950	GORK	2	S/F	0737.2	0738.6	4.6	22.0			
	1415	LEAR	47	GB	0737.3	0739.0	5.5	130.0			QL=6 ST=2 TYP=5
	8800	LEAR	47	GB	0737.8	0739.6	9.0	100.0			QL=6 ST=2 TYP=5
	4995	LEAR	47	GB	0737.8	0739.6	9.0	110.0			QL=6 ST=2 TYP=5
	2950	GORK	4	S/F	0737.8	0739.6	4.8	74.0			
	9100	GORK	48	C	0737.9	0737.9	5.1	76.0			
	5200	BERN	4	S/F	0738.0	0739.8	8.0	115.0			ONLY PAPER REC
	3100	BERN	4	S/F	0738.0	0739.8	8.0	51.0			ONLY PAPER REC
	3100	CRIM	3	S	0738.0	0740.5	8.0	54.0	18.0		
	2695	LEAR	47	GB	0738.1	0740.1	8.7	53.0			QL=6 ST=2 TYP=5
	245	LEAR	47	GB	0738.6	0741.8	3.5	55.0			QL=6 ST=2 TYP=5
	15400	LEAR	4	S/F	0739.3	0740.3	4.3	40.0			QL=6 ST=2 TYP=3
	950	GORK	20	GRF	0814.5	0946.9	133.0	7.0			
	245	LEAR	47	GB	0825.6	0825.6	.2	63.0			QL=6 ST=2 TYP=5
	3000	POTS	42	SER	0827.0	0835.0	13.0	14.0			
	1470	POTS	42	SER	0829.0	0829.9	9.0	47.0			
	2695	LEAR	4	S/F	0829.6	0829.8	2.5	13.0			QL=6 ST=2 TYP=3
	1415	LEAR	4	S/F	0829.6	0830.0	3.2	41.0			QL=6 ST=2 TYP=3
	2950	GORK	4	S/F	0833.8	0835.0	4.6	18.3			
	2695	LEAR	8	S	0834.1	0834.6	1.5	20.0			QL=6 ST=2 TYP=3
	3100	CRIM	1	S	0834.5	0835.8	3.0	15.0	5.0		
	1415	LEAR	47	GB	0834.8	0835.1	.8	62.0			QL=6 ST=2 TYP=5
	3000	POTS	3	S	0910.0	0912.0	4.0	14.0			
	9500	POTS	1	S	0910.5	0911.5	2.0	8.0			
	2950	GORK	3	S	0911.0	0911.8	1.7	13.3			
	3100	CRIM	1	S	0911.0	0912.0	2.0	10.0	3.0		
	9400	HUAN	20	GRF	1158.1	1203.9	11.3	4.1	1.9		0
	234	POTS	4	S/F	1239.3	1239.5	.5	200.0	30.0		III
	8800	SGMR	47	GB	1256.0	1256.6	1.1	400.0			QL=6 ST=2 TYP=5
	4995	ATHN	4	S/F	1303.8	1307.5	6.7	22.0			QL=2 ST=2 TYP=3
	8800	ATHN	4	S/F	1303.8	1307.5	6.7	27.0			QL=6 ST=2 TYP=3
	1470	POTS	1	S	1306.5	1307.0	1.5	5.0			
	2695	ATHN	4	S/F	1306.6	1307.5	3.5	41.0			QL=2 ST=2 TYP=3
	9500	POTS	8	S	1306.8	1307.0	1.0	20.0			
	4995	SGMR	8	S	1306.8	1307.1	.5	25.0			QL=6 ST=2 TYP=3
	15400	SGMR	8	S	1306.8	1307.1	.5	30.0			QL=6 ST=2 TYP=3
	2695	SGMR	8	S	1306.8	1307.1	.5	30.0			QL=6 ST=2 TYP=3
	8800	SGMR	8	S	1306.8	1307.1	.5	20.0			QL=6 ST=2 TYP=3
	3100	BERN	8	S	1307.0	1307.2	1.0	19.0			ONLY PAPER REC
	8400	BERN	8	S	1307.0	1307.2	1.0	20.0			ONLY PAPER REC
	5200	BERN	8	S	1307.0	1307.2	1.0	29.0			ONLY PAPER REC
	9400	HUAN	20	GRF	1331.0	1338.2	11.4	2.7	2.3		0
	2800	OTTA	3	S	1418.0	1419.0	7.0	13.4	4.5		
	9400	HUAN	2	S/F	1418.1	1421.5	7.2	6.9	3.2		R
	9400	HUAN	1	S	1536.9	1537.7	2.4	5.5	1.4		0
	9400	HUAN	2	S/F	1559.2	1600.2	2.8	6.9	3.6		0
	9400	HUAN	3	S	1618.3	1619.2	1.8	23.4	11.9		R
	2800	OTTA	3	S	1618.7	1619.1	3.0	15.0	4.0		
	9400	HUAN	29	PBI	1620.1	1620.1	16.1	4.1	3.0		0
	2800	OTTA	1	S	1641.0	1643.8	6.0	6.4	3.0		
	9400	HUAN	20	GRF	1725.5	1740.8	42.1	6.2	4.0		0
	2800	OTTA	20	GRF	1840.0	1843.0	40.0	8.2	3.5		
	9400	HUAN	1	S	1910.2	1910.7	2.5	5.5	3.2		0
	2800	OTTA	4	S/F	2010.0	2022.5	27.0	126.0	60.0		
	9400	HUAN	45	C	2011.6	2022.6	17.2	57.7	29.0		R
	1415	PALE	47	GB	2012.1	2013.5	12.2	79.0			QL=6 ST=2 TYP=5
	1415	SGMR	4	S/F	2012.5	2013.5	4.3	42.0			QL=6 ST=2 TYP=3
	4995	PALE	47	GB	2014.0	2015.5	10.3	46.0			QL=6 ST=2 TYP=5
	245	SGMR	8	S	2014.3	2014.5	1.8	30.0			QL=6 ST=2 TYP=3
	245	PALE	47	GB	2014.3	2014.8	2.3	59.0			QL=6 ST=2 TYP=5
	2695	SGMR	47	GB	2014.3	2015.5	4.3	53.0			QL=6 ST=2 TYP=5
	8800	PALE	47	GB	2014.3	2015.5	10.0	30.0			QL=6 ST=2 TYP=5
	15400	PALE	4	S/F	2019.5	2019.8	4.8	28.0			QL=6 ST=2 TYP=3
	1415	PALE	47	GB	2024.3	2024.5	5.3	79.0			QL=6 ST=2 TYP=5
	4995	PALE	47	GB	2024.3	2024.5	4.7	72.0			QL=6 ST=2 TYP=5
	8800	PALE	47	GB	2024.3	2024.5	3.2	53.0			QL=6 ST=2 TYP=5
	15400	PALE	8	S	2026.6	2026.6	.2	20.0			QL=6 ST=2 TYP=3

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

DECEMBER 1982

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
14	9400	HUAN	29	PBI	2028.8	2028.8	58.9	22.0	14.0		0
	1415	PALE	4	S/F	2031.6	2033.0	3.5	19.0			QL=6 ST=2 TYP=3
	245	PALE	8	S	2032.8	2033.1	.5	24.0			QL=6 ST=2 TYP=3
	2800	OTTA	30	PBI	2037.0	2037.0	48.0	9.6	4.8		
	2800	OTTA	20	GRF	2050.0	2053.0	17.0	16.4	8.2		
	245	PALE	47	GB	2050.8	2051.0	.7	87.0			QL=6 ST=2 TYP=5
	610	PALE	8	S	2051.1	2052.0	2.0	26.0			QL=6 ST=2 TYP=3
	1415	PALE	47	GB	2051.1	2052.6	4.0	52.0			QL=6 ST=2 TYP=5
	2695	PENT	22	GRF	2140.0	2147.0	70.0D	26.0			
	610	PALE	47	GB	2144.1	2144.6	2.5	110.0			QL=6 ST=2 TYP=5
	245	LEAR	47	GB	2257.6	2258.3	1.0	86.0			QL=6 ST=2 TYP=5
	3750	TYKW	21	GRF	2340.0	2359.0	70.0	6.0	3.0		
	9400	TYKW	5	S	2349.0	2349.8	3.5	10.0	3.0		
	8800	LEAR	8	S	2349.5	2349.8	1.8	11.0			QL=6 ST=2 TYP=3
15	208	VORO	44	NS	0000.0E		240.0D		25.0		
	245	LEAR	43	NS	0239.0	0510.3	486.0D	100.0			QL=6 ST=2 TYP=1
	410	LEAR	43	NS	0501.0	0738.6	344.0D	51.0			QL=6 ST=2 TYP=1
	127	TORN	44	NS	0730.0E	1208.3	300.0D	100.0	19.0		V=1
	260	ONDR	44	NS	0815.0E		332.0D	34.0			
	245	SGMR	43	NS	1525.3	1539.3	319.7D	219.0			QL=6 ST=2 TYP=1
	245	PALE	43	NS	1725.0	1901.8	595.0D	100.0			QL=6 ST=2 TYP=1
	200	HIRA	44	NS	2141.0E	0050.0	570.0D	15.0	5.0		WR
	100	HIRA	44	NS	2141.0E	2330.0	570.0D	30.0	10.0		WR
	245	LEAR	43	NS	2153.0	2232.1	772.0D	250.0			QL=5 ST=2 TYP=1
	3750	TYKW	20	GRF	0009.0	0011.3	35.0	5.0	2.0		
	410	LEAR	8	S	0032.3	0032.3	.2	15.0			QL=6 ST=2 TYP=3
	2000	TYKW	28	PRE	0055.0	0156.0	61.0	7.0	3.0		
	245	LEAR	8	S	0115.8	0116.0	.3	17.0			QL=6 ST=2 TYP=3
	3750	TYKW	28	PRE	0125.0	0156.0	31.0	7.0	3.5		
	9400	TYKW	28	PRE	0127.0	0156.0	29.0	6.0	3.0		
	1000	TYKW	28	PRE	0141.0	0156.0	15.0	2.0	1.0		
	9400	TYKW	5	S	0142.0	0142.8	4.0	8.0	2.0		
	2000	TYKW	5	S	0142.0	0143.9	5.0	8.0	1.5		
	4995	MANI	47	GB	0155.6	0200.9	13.3	3991.5	1197.2		
	4995	MANI	49	GB	0155.6	0201.8	13.2	1500.0			QL=6 ST=2 TYP=6
	1415	MANI	49	GB	0155.6	0204.1	21.7	3300.0			QL=6 ST=2 TYP=6
	1415	MANI	47	GB	0155.6	0204.2	21.7	1948.8	649.6		
	3750	TYKW			0156.0	0200.8		4230.0			
	1000	TYKW	47	GB	0156.0	0200.8	34.0	15600.0	500.0		
	2000	TYKW	47	GB	0156.0	0200.8	22.0	8750.0	650.0		
	9400	TYKW			0156.0	0201.6		8880.0			
	3750	TYKW	47	GB	0156.0	0201.6	25.0	4350.0	550.0		
	9400	TYKW	47	GB	0156.0	0202.4	30.0	9070.0	1100.0		
	100	HIRA	48	C	0156.1		18.0	10000.0D	4300.0D		
	8800	LEAR	49	GB	0156.6	0201.5	27.5	9400.0			QL=6 ST=2 TYP=7
	200	HIRA	48	C	0157.0	0200.5	39.0	56000.0	1230.0		WR
	245	LEAR	49	GB	0157.3	0159.8	21.5	16000.0			QL=6 ST=2 TYP=7
	500	HIRA	48	C	0157.4	0201.7	40.0	3700.0	400.0		WR
	2695	LEAR	49	GB	0157.6	0200.6	20.2	7300.0			QL=6 ST=2 TYP=7
	1415	LEAR	49	GB	0157.6	0200.6	33.2	22000.0			QL=6 ST=2 TYP=7
	4995	LEAR	49	GB	0157.6	0200.8	20.2	7400.0			QL=6 ST=2 TYP=7
	15400	LEAR	49	GB	0157.6	0201.3	34.5	17000.0			QL=6 ST=2 TYP=7
	17000	NOBE	49	GB	0157.6	0201.5	20.7	14700.0			R
	35000	NAGO	5	S	0158.0	0200.0	8.0	200.0			
	208	VORO	48	C	0158.0	0205.0	12.0	200.0D			
	410	LEAR	49	GB	0158.1	0200.3	33.5	2600.0			QL=6 ST=2 TYP=7
	610	LEAR	49	GB	0158.1	0200.3	34.0	4000.0			QL=6 ST=2 TYP=7
	410	PALE	49	GB	0158.3	0200.3		2899.0			QL=6 ST=1 TYP=6
	2000	TYKW	30	PBI	0218.0		115.0	15.0	5.0		
	17000	NOBE	29	PBI	0218.3	0218.3	45.0	65.0			0
	3750	TYKW	30	PBI	0221.0		80.0	20.0	10.0		
	9400	TYKW	29	PBI	0226.0		60.0	26.0	12.0		
	1000	TYKW	30	PBI	0230.0		70.0	14.0	6.0		
	3750	TYKW	45	C	0230.0	0238.2	10.0	10.0	4.0		
	2000	TYKW	45	C	0236.5	0238.4	7.5	29.0	6.0		
	1000	TYKW	45	C	0237.0	0238.2	2.0	12.0	4.0		
	1415	LEAR	47	GB	0237.1	0238.0	3.0	51.0			QL=6 ST=2 TYP=5
	1415	PALE	47	GB	0237.3	0238.0	1.3	62.0			QL=6 ST=2 TYP=5
	8800	PALE	8	S	0237.8	0237.8	.5	20.0			QL=6 ST=2 TYP=3
	15400	PALE	8	S	0237.8	0237.8	.5	34.0			QL=6 ST=2 TYP=3

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

DECEMBER 1982

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
15	4995	PALE	8	S	0237.8	0238.0	.5	16.0			QL=6 ST=2 TYP=3
	3750	TYKW	29	PBI	0240.0		15.0	4.0	2.0		
	200	HIRA	46	C	0257.1	0304.5	20.7	150.0	33.0		WL
	208	VORO	22	GRF	0258.0	0305.0	17.0	141.0			
	245	PALE	47	GB	0301.6	0305.8	7.7	200.0			QL=6 ST=2 TYP=5
	245	LEAR	47	GB	0302.6	0305.8	6.5	180.0			QL=6 ST=2 TYP=5
	208	VORO	46	C	0318.0	0323.0	40.0	216.0			
	208	VORO			0318.0	0336.0		215.0			
	200	HIRA	46	C	0318.3	0321.3	51.0	260.0	64.0		ML
	200	HIRA			0318.3	0335.3		190.0			WL
	2000	TYKW	5	S	0320.0	0321.8	6.0	8.0	3.0		
	245	LEAR	47	GB	0320.0	0323.6	22.1	380.0			QL=6 ST=2 TYP=5
	410	LEAR	4	S/F	0321.6	0323.3	2.2	6.0			QL=6 ST=2 TYP=3
	3750	TYKW	5	S	0326.0	0326.5	1.0	4.0	1.0		
	2000	TYKW	5	S	0326.2	0326.6	1.0	4.0	1.0		
	3750	TYKW	5	S	0327.5	0328.5	2.0	4.0	1.5		
	245	LEAR	8	S	0407.8	0408.0	.3	22.0			QL=6 ST=2 TYP=3
	200	HIRA	46	C	0410.5	0445.3	98.0	100.0	30.0		WL
	200	HIRA			0410.5	0530.0		105.0			WL
	3750	TYKW	20	GRF	0425.0	0439.0	90.0	7.0	3.0		
	9400	TYKW	21	GRF	0430.0	0507.0	100.0	6.0	3.0		
	2000	TYKW	20	GRF	0432.0	0506.0	90.0	3.0	1.5		
	9400	TYKW	5	S	0523.4	0523.6	.7	9.0	3.0		
	2950	GORK	23	GRF	0728.0	0818.0	142.0	10.8			
	9100	GORK	23	GRF	0735.8	1014.8	198.0	50.0			
	650	GORK	23	GRF	0942.0		63.0	16.0			
	3100	CRIM	1	S	0944.0	0952.0	8.0U	22.0	7.0		
	2650	DWIN	1	S	0957.0	0958.0	2.0	15.0	10.0		
	950	GORK	22	GRF	0959.5	1015.8	28.0	15.0			
	950	GORK	4	S/F	1002.8		6.1	130.0D			
	2950	GORK	4	S/F	1003.0	1006.0U	6.4	180.0D			
	650	GORK	4	S/F	1003.3	1008.0U	14.7	80.0D			
	9100	GORK			1003.4	1007.0U	6.8	430.0D			
	650	GORK	8	S	1042.0	1042.3	.6	80.0			
	950	GORK	4	S/F	1042.0	1042.3	.9	29.0			
	2950	GORK	4	S/F	1045.0	1047.1	2.2	9.0			
	9100	GORK	1	S	1054.8	1055.4	.7	22.0			
	950	GORK	46	C	1106.2	1106.8	3.7	30.0			
	950	GORK			1106.2	1108.5		10.0			
	9400	HUAN	20	GRF	1220.8	1231.8	28.8	6.9	4.0		0
	3100	BERN	3	S	1318.6	1319.9	6.0	11.0			
	9400	HUAN	3	S	1318.7	1320.2	2.4	20.8	10.9		0
	5200	BERN	3	S	1319.0	1320.0	6.0	38.0			
	8400	BERN	3	S	1319.0	1320.0	6.0	23.0			
	8800	ATHN	4	S/F	1319.1	1320.3	7.0	13.0			QL=6 ST=2 TYP=3
	4995	ATHN	8	S	1319.3	1320.0	2.0	27.0			QL=2 ST=2 TYP=3
	9400	HUAN	29	PBI	1321.1	1321.1	13.1	8.3	5.2		0
	9400	HUAN	20	GRF	1348.7	1412.0	39.2	4.2	.6		0
	2800	OTTA	20	GRF	1535.0	1543.0	18.0	4.2	2.4		
	2800	OTTA	3	S	1600.0	1602.2	7.0	10.6	3.6		
	9400	HUAN	20	GRF	1600.1	1605.2	10.6	2.8	1.2		0
	2800	OTTA	47	GB	1627.0	1632.2	19.0	790.0	132.0		
	9400	HUAN	47	GB	1627.2	1631.7	27.8	2412.0	987.4		R
	4995	SGMR	49	GB	1627.5	1631.6	15.1	2399.0			QL=6 ST=2 TYP=7
	8800	SGMR	49	GB	1627.8	1631.3	17.8	3000.0			QL=6 ST=2 TYP=7
	2695	SGMR	49	GB	1627.8	1632.0	14.0	840.0			QL=6 ST=2 TYP=7
	1415	SGMR	49	GB	1627.8	1632.6	19.0	1300.0			QL=6 ST=2 TYP=7
	610	SGMR	49	GB	1629.1	1632.6	25.0	1399.0			QL=6 ST=2 TYP=7
	15400	SGMR	49	GB	1630.1	1632.0	20.5	3100.0			QL=6 ST=2 TYP=7
	410	SGMR	49	GB	1630.6	1631.3	15.7	830.0			QL=6 ST=2 TYP=7
	245	SGMR	49	GB	1630.6	1632.6	15.0	26000.0			QL=6 ST=2 TYP=7
	9400	HUAN	31	ABS	1644.8	1656.0	20.6	-18.0	-10.8		0
	2800	OTTA	260	FAL	1647.0	1655.0	8.0	-5.2	-2.6		
	245	SGMR	47	GB	1703.1	1706.1	9.2	370.0			QL=6 ST=2 TYP=5
	410	SGMR	47	GB	1704.1	1706.1	3.5	68.0			QL=6 ST=2 TYP=5
	610	SGMR	47	GB	1704.1	1706.1	3.4	88.0			QL=6 ST=2 TYP=5
	2800	OTTA	20	GRF	1705.0	1707.0	25.0	13.8			
	2800	OTTA			1735.0		55.0	4.2	2.4		
	15400	PALE	47	GB	1745.6	1746.3	7.2	81.0			QL=6 ST=2 TYP=5
	1415	PALE	8	S	1745.8	1746.3	1.2	23.0			QL=6 ST=2 TYP=3
	8800	PALE	8	S	1746.1	1746.3	.7	22.0			QL=6 ST=2 TYP=3

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

DECEMBER 1982

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
15	610	PALE	8	S	1746.1	1746.3	.4	11.0			QL=6 ST=2 TYP=3
	4995	PALE	8	S	1746.1	1746.3	.5	21.0			QL=6 ST=2 TYP=3
	2800	OTTA	3	S	1756.0	1757.6	6.0	27.6	7.2		
	245	PALE	8	S	1812.0	1812.1	.1	30.0			QL=6 ST=2 TYP=3
	245	PALE	47	GB	1817.6	1817.8	.4	89.0			QL=6 ST=2 TYP=5
	2695	PENT	20	GRF	2020.0	2050.0	55.0	6.0	3.0		
	9400	HUAN	28	PRE	2034.2	2045.5	11.3U	8.3	5.1		0
	9400	HUAN	3	S	2045.5	2047.0	3.3	72.3	37.6		L
	15400	PALE	47	GB	2045.6	2047.0	7.0	110.0			QL=6 ST=2 TYP=5
	8800	PALE	47	GB	2046.5	2046.8	1.1	64.0			QL=6 ST=2 TYP=5
	4995	PALE	8	S	2046.5	2047.3	2.0	23.0			QL=6 ST=2 TYP=3
	9400	HUAN	29	PBI	2048.8	2048.8	20.8	20.8	5.8		0
	9400	HUAN	28	PRE	2137.1	2148.1	11.0	15.2	10.5		0
	2695	PENT	4	S/F	2145.0	2151.5	15.0	174.0	56.4		
	4995	PALE	47	GB	2148.0	2151.6	16.5	390.0			QL=6 ST=2 TYP=5
	9400	HUAN	45	C	2148.1	2151.5	5.4	291.1	221.5		L
	15400	PALE	47	GB	2148.6	2151.5	15.9	300.0			QL=6 ST=2 TYP=5
	8800	PALE	49	GB	2148.6	2151.6	15.9	520.0			QL=6 ST=2 TYP=6
	1415	PALE	47	GB	2148.8	2150.1	13.8	230.0			QL=6 ST=2 TYP=5
	1415	LEAR	47	GB	2149.0E	2149.0	6.0D	180.0			QL=4 ST=3 TYP=5
	15400	LEAR	47	GB	2149.0E	2150.0	6.0D	150.0			QL=4 ST=3 TYP=5
	2695	LEAR	47	GB	2149.0E	2151.0	6.0D	100.0			QL=4 ST=3 TYP=5
	4995	LEAR	47	GB	2149.0E	2151.0	4.0D	139.0			QL=4 ST=3 TYP=5
	8800	LEAR	47	GB	2149.0E	2151.0	6.0D	150.0			QL=4 ST=3 TYP=5
	610	LEAR	47	GB	2152.0E	2153.0	1.8D	50.0			QL=4 ST=3 TYP=5
	610	PALE	47	GB	2153.1	2153.3	.5	74.0			QL=6 ST=2 TYP=5
	9400	HUAN	29	PBI	2153.5	2153.5	48.8	37.4	18.6		L
	2695	PENT	29	PBI	2200.0	2200.0	40.0D	27.0			
	610	PALE	47	GB	2204.5	2204.8	3.1	74.0			QL=6 ST=2 TYP=5
	610	LEAR	47	GB	2210.3	2213.0	4.3	139.0			QL=5 ST=2 TYP=5
	610	PALE	47	GB	2211.6	2213.0	3.0	169.0			QL=6 ST=2 TYP=5
	500	HIRA	45	C	2211.7	2213.8	2.5	95.0	55.0		SR
	9400	TYKW	5	S	2251.0	2251.4	1.5	30.0	6.0		
	8800	LEAR	8	S	2251.3	2251.3	.3	24.0			QL=6 ST=2 TYP=3
	8800	PALE	8	S	2251.3	2251.3	.3	29.0			QL=6 ST=2 TYP=3
	2000	TYKW	20	GRF	2350.0	0025.0	145.0	3.0	1.5		
	3750	TYKW	21	GRF	2350.0	0050.0	130.0	7.0	3.5		
	1000	TYKW	20	GRF	2355.0	0017.0	70.0	3.0	1.5		
16	208	VORO	44	NS	0000.0E		240.0D		6.0		
	410	LEAR	43	NS	0620.1	0732.6	264.9D	52.0			QL=6 ST=2 TYP=1
	260	ONDR	44	NS	0824.0E		321.0D				
	245	SGMR	43	NS	1231.0	1242.3	495.0D	150.0			QL=6 ST=2 TYP=1
	245	LEAR	43	NS	2153.0	0201.3	773.0D	68.0			QL=6 ST=2 TYP=1
	410	LEAR	8	S	0027.3	0027.5	.3	20.0			QL=6 ST=2 TYP=3
	9400	TYKW	21	GRF	0054.0	0056.0	70.0	4.0	2.0		
	3750	TYKW	5	S	0100.0	0100.6	2.0	8.0	5.0		
	4995	LEAR	4	S/F	0100.3	0100.3	3.2	17.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0100.3	0100.3	3.0	11.0			QL=6 ST=2 TYP=3
	3750	TYKW	29	PBI	0102.0		15.0	4.0	2.0		
	9400	TYKW	45	C	0129.0	0130.8	3.0	11.0	4.0		
	3750	TYKW	45	C	0129.0	0140.6	20.0	6.0	2.0		
	9400	TYKW	29	PBI	0132.0		14.0	4.0	2.0		
	2000	TYKW	20	GRF	0228.0	0233.0	30.0	3.0	1.0		
	3750	TYKW	5	S	0231.0	0233.4	5.0	3.0	1.0		
	2000	TYKW	20	GRF	0303.0	0325.0	70.0	2.0	1.0		
	9400	TYKW	5	S	0308.0	0308.2	.5	10.0	3.0		
	200	HIRA	41	F	0308.7	0309.0	7.0	190.0			MR
	1000	TYKW	5	S	0310.0	0310.5	2.0	2.0	.7		
	9400	TYKW	5	S	0312.6	0312.8	1.5	11.0	3.0		
	8800	LEAR	8	S	0312.8	0312.8	.7	11.0			QL=6 ST=2 TYP=3
	9400	TYKW	5	S	0340.0	0340.2	1.0	4.0	1.5		
	3750	TYKW	21	GRF	0435.0	0515.0	120.0	5.0	2.5		
	9400	TYKW	5	S	0524.2	0524.5	1.0	9.0	3.0		
	3750	TYKW	5	S	0532.0	0533.0	5.0	4.0	1.5		
	610	LEAR	4	S/F	0534.8	0537.1	3.0	5.0			QL=6 ST=2 TYP=3
	410	LEAR	4	S/F	0535.0	0537.8	3.1	29.0			QL=6 ST=2 TYP=3
	245	LEAR	47	GB	0535.1	0537.1	3.5	200.0			QL=6 ST=2 TYP=5
	200	HIRA	46	C	0535.3	0537.1	3.4	95.0	18.0		ML
	2000	TYKW	5	S	0537.0	0537.2	.7	5.0	1.5		
	610	LEAR	8	S	0543.3	0543.3	.2	11.0			QL=6 ST=2 TYP=3

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
16	200	HIRA	46	C	0617.0	0617.3	3.3	17.0	4.0		WL
	410	LEAR	8	S	0618.8	0618.8	.2	29.0			QL=6 ST=2 TYP=3
	6100	KISV	4	S/F	0619.5	0621.3	3.5	12.0			
	9400	TYKW	45	C	0620.0	0621.0	5.0	10.0	3.0		
	3750	TYKW	5	S	0620.0	0621.2	3.0	7.0	3.0		
	2000	TYKW	5	S	0620.0	0621.2	3.0	4.0	1.5		
	610	LEAR	8	S	0620.3	0621.0	1.0	19.0			QL=6 ST=2 TYP=3
	500	HIRA	8	S	0632.6	0632.8	.5	160.0			WL
	410	LEAR	47	GB	0632.8	0632.8	.5	73.0			QL=6 ST=3 TYP=5
	410	LEAR	8	S	0632.8	0633.0	.3	36.0			QL=6 ST=3 TYP=3
	15000	KISV	28	PRE	0655.0	1003.0	188.0	30.0			
	3100	CRIM	20	GRF	0721.5	0815.4	78.0	10.0	3.0		
	6100	KISV	28	PRE	0722.0	1002.0	160.0	10.0			
	113	POTS	42	SER	0750.8	0750.8	25.0	200.0	1.0		
	3000	POTS	45	C	0801.0	0807.2	12.0	210.0			
	430	KRAK	42	SER	0805.0E	0901.0	86.0D	51.0			
	6100	KISV	1	S	0936.2	0937.0	1.0	3.0			
	260	ONDR	28	PRE	0950.0	1001.0	12.0	44.0	22.0		
	113	POTS	46	C	0950.0	1016.0	43.0	13000.0			
	234	POTS	45	C	0950.0	1017.0	110.0	13000.0			
	610	LEAR	8	S	0951.5	0951.6	.8	32.0			QL=6 ST=2 TYP=3
	930	BORD	45	C	1000.0	1006.0	22.0	2925.0	294.0		
	204	IZMI	45	C	1001.0	1006.5	73.0	2400.0	300.0		
	204	IZMI			1001.0	1028.0		700.0			
	1470	POTS	45	C	1001.5	1006.0	24.0	830.0			
	245	LEAR	49	GB	1001.6	1007.1	31.2	9900.0			QL=6 ST=3 TYP=7
	1415	LEAR	49	GB	1001.8	1005.3	10.0	1699.0			QL=6 ST=2 TYP=7
	6100	KISV			1002.0	1005.2		275.0			
	6100	KISV	47	GB	1002.0	1006.6	8.0	540.0			
	808	ONDR	49	GB	1002.0	1007.0U	9.0	666.0D			
	260	ONDR	49	GB	1002.0	1010.0U	20.0	202.0D			
	610	LEAR	49	GB	1002.3	1006.3	15.0	1399.0			QL=6 ST=2 TYP=7
	410	LEAR	49	GB	1002.3	1006.8	17.5	4800.0			QL=6 ST=2 TYP=7
	3100	CRIM	45	C	1002.6	1005.2	8.0	234.0	90.0		
	3100	CRIM			1002.6	1006.4		274.0			
	15000	KISV			1003.0	1007.0U	7.0	130.0D			
	2650	DWIN	45	C	1003.0	1007.0	15.0	380.0	100.0		
	536	ONDR	46	C	1003.0	1007.5	7.0	312.0	241.0		
	2695	LEAR	49	GB	1003.3	1006.1	6.0	380.0			QL=6 ST=2 TYP=7
	4995	LEAR	49	GB	1003.5	1006.3	5.8	530.0			QL=6 ST=2 TYP=7
	9500	POTS	45	C	1003.5	1006.5	77.0	1290.0			
	3000	IZMI	45	C	1003.5	1006.5	6.7	251.0	167.0		
	3000	POTS	45	C	1003.5	1006.5	59.0	600.0			
	35000	BERN	47	GB	1003.7	1006.4	30.0	1646.0			
	11800	BERN	47	GB	1003.7	1006.4	30.0	1814.0			
	8400	BERN	47	GB	1003.7	1006.4	30.0	1480.0			
	19600	BERN	47	GB	1003.7	1006.4	30.0	1593.0			
	3100	BERN	45	C	1003.7	1006.5	30.0	241.0			
	5200	BERN	47	GB	1003.7	1006.5	30.0	586.0			
	8800	LEAR	49	GB	1003.8	1006.3	6.5	1300.0			QL=5 ST=3 TYP=7
	15400	LEAR	49	GB	1004.0	1006.3	6.6	1600.0			QL=6 ST=2 TYP=7
	6100	KISV	29	PBI	1010.0	1010.0	80.0	30.0			
	15000	KISV	29	PBI	1010.0	1010.0	80.0	30.0			
	808	ONDR	29	PBI	1010.0	1010.0	20.0	20.0	12.0		
	536	ONDR	29	PBI	1010.0	1011.5	13.0	46.0	39.0		
	3000	IZMI	29	PBI	1010.0	1016.5	10.0	17.0	8.0		
	3100	CRIM	40	F	1010.6	1011.0	8.0	17.0	6.0		
	3100	CRIM			1010.6	1014.6		17.0			
	3100	CRIM			1010.6	1016.2		18.0			
	808	ONDR	8	S	1011.5	1011.5	1.0	15.0			
	6100	KISV	45	C	1014.2	1014.8	4.0	12.0			
	6100	KISV			1014.2	1016.7		12.0			
	3100	CRIM	26	FAL	1019.0	1140.0		11.0			
	260	ONDR	46	C	1022.0	1027.0	18.0	168.0U			
	260	ONDR	27	RF	1040.0	1046.0	60.0	81.0U	57.0		
	930	BORD	8	S	1127.5	1127.5	.1	23.0	1.0		
	6100	KISV	1	S	1128.5	1129.1	1.5	4.0			
	15000	KISV	1	S	1128.7	1129.1	1.0	26.0			
	260	ONDR	28	PRE	1201.0	1205.0	11.0	13.0	8.0		
	808	ONDR	40	F	1203.0	1205.0	4.0	7.0			
	536	ONDR	40	F	1211.0	1213.5	5.0	98.0			

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
16	260	ONDR	46	C	1212.0	1214.5	7.0	178.0	67.0		
	113	POTS	42	SER	1213.0	1215.3	2.7	800.0	12.0		III
	930	BORD	41	F	1213.0	1215.0	3.0	56.0	4.0		
	234	POTS	41	F	1213.7	1215.1	2.6	330.0	5.0		III
	260	ONDR	28	PRE	1234.0	1234.5	6.0	17.0	8.0		
	930	BORD	46	C	1240.0	1242.2	5.0	21.0	5.0		
	260	ONDR	46	C	1240.0	1242.5	6.0	98.0	56.0		
	808	ONDR	2	S/F	1241.0	1242.5	4.0	7.0	5.0		
	2800	OTTA	21	GRF	1355.0	1640.0	300.0	19.0	9.5		
	2650	DWIN	45	C	1413.0	1417.0	10.0	450.0	200.0		
	930	BORD	45	C	1417.0	1420.7	11.0	152.0	30.0		
	610	SGMR	47	GB	1417.6	1420.5	6.2	83.0			QL=6 ST=2 TYP=5
	2800	OTTA	3	S	1418.0	1421.0	9.0	460.0	114.0		
	19600	BERN	45	C	1418.0	1456.4	50.00	308.0			
	11800	BERN	47	GB	1418.0	1456.4	50.00	1012.0			
	3100	BERN	47	GB	1418.0	1502.0U	50.00	510.00			
	5200	BERN	47	GB	1418.0	1502.0U	50.00	609.00			
	8400	BERN	47	GB	1418.0	1502.3	50.00	1106.0			
	245	SGMR	49	GB	1418.3	1418.5	3.8	260.0			QL=6 ST=2 TYP=6
	410	SGMR	49	GB	1418.3	1419.6	4.5	810.			QL=6 ST=2 TYP=6
	2695	SGMR	49	GB	1418.3	1420.5	8.2	480.0			QL=6 ST=2 TYP=6
	4995	ATHN	49	GB	1418.3	1420.5	8.5	670.0			QL=2 ST=1 TYP=6
	8800	SGMR	47	GB	1418.3	1420.5	8.5	330.0			QL=6 ST=2 TYP=5
	8800	ATHN	47	GB	1418.3	1420.6	9.2	360.0			QL=6 ST=2 TYP=5
	1415	SGMR	47	GB	1418.5	1419.8	5.1	480.0			QL=6 ST=2 TYP=5
	4995	SGMR	49	GB	1418.5	1420.5	10.8	580.0			QL=6 ST=2 TYP=6
	9400	HUAN	45	C	1418.5	1420.7U	4.4	335.7	122.4		R
	2695	ATHN	47	GB	1418.5	1425.6	8.1	460.0			QL=2 ST=1 TYP=5
	1415	ATHN	49	GB	1418.6	1420.1	7.2	580.0			QL=6 ST=2 TYP=6
	113	POTS	41	F	1419.7	1420.6	1.0	110.0	4.0		III
	9400	HUAN	30	PBI	1422.9	1422.9	224.7	126.5	82.6		R
	2800	OTTA	30	PBI	1427.0	1427.0	13.0	18.8	4.8		
	2800	OTTA	1	S	1434.0	1435.6	3.0	5.6	2.8		
	2695	ATHN	47	GB	1453.8	1456.3	11.5	180.0			QL=6 ST=1 TYP=5
	4995	SGMR	49	GB	1453.8	1456.6	17.0	500.0			QL=6 ST=2 TYP=6
	4995	ATHN	47	GB	1453.8	1457.6	11.5	180.0			QL=6 ST=1 TYP=5
	9400	HUAN	47	GB	1453.8	1503.6U	13.7	646.4	226.7		L
	2800	OTTA	47	GB	1454.0	1456.8	24.0	555.0	142.0		
	8800	SGMR	49	GB	1454.1	1456.3	16.7	810.0			QL=6 ST=2 TYP=6
	930	BORD	45	C	1454.5	1502.2	38.0	772.0	120.0		
	2695	SGMR	49	GB	1454.6	1456.8	16.2	600.0			QL=6 ST=2 TYP=6
	1415	SGMR	49	GB	1454.6	1457.3	16.2	410.0			QL=6 ST=2 TYP=6
	15400	SGMR	49	GB	1455.0	1456.5	15.8	960.0			QL=5 ST=2 TYP=6
	610	SGMR	49	GB	1455.8	1458.3	15.0	70.0			QL=6 ST=2 TYP=6
	410	SGMR	49	GB	1500.5	1503.5	10.3	380.0			QL=6 ST=2 TYP=6
	245	SGMR	47	GB	1507.3	1510.1	3.5	300.0			QL=6 ST=2 TYP=5
	2695	SGMR	47	GB	1510.8	1511.0	15.3	94.0			QL=6 ST=2 TYP=5
	15400	SGMR	47	GB	1510.8	1511.1	15.3	200.0			QL=6 ST=2 TYP=5
	1415	SGMR	47	GB	1510.8	1511.1	15.3	119.0			QL=6 ST=2 TYP=5
	610	SGMR	49	GB	1510.8	1512.5	15.3	1000.0			QL=6 ST=2 TYP=6
	4995	SGMR	47	GB	1510.8	1512.6	15.3	97.0			QL=6 ST=2 TYP=5
	8800	SGMR	47	GB	1510.8	1512.6	15.3	110.0			QL=6 ST=2 TYP=5
	410	SGMR	49	GB	1510.8	1512.8	15.3	580.0			QL=6 ST=2 TYP=6
	245	SGMR	47	GB	1510.8	1512.8	15.3	400.0			QL=6 ST=2 TYP=5
	9400	HUAN	3	S	1513.1	1513.8	2.1	22.2	10.6		0
	2800	OTTA	29	PBI	1518.0	1518.0	45.0	18.8	7.5		
	1415	SGMR	4	S/F	1526.1	1526.5	7.7	23.0			QL=6 ST=2 TYP=3
	15400	SGMR	47	GB	1526.1	1526.5	7.7	89.0			QL=6 ST=2 TYP=5
	410	SGMR	4	S/F	1526.1	1526.6	7.7	20.0			QL=6 ST=2 TYP=3
	245	SGMR	47	GB	1526.1	1526.8	7.7	270.0			QL=6 ST=2 TYP=5
	610	SGMR	4	S/F	1526.1	1526.8	7.7	30.0			QL=6 ST=2 TYP=3
	4995	SGMR	4	S/F	1526.1	1526.8	7.7	30.0			QL=6 ST=2 TYP=3
	8800	SGMR	47	GB	1526.1	1527.1	7.7	50.0			QL=6 ST=2 TYP=5
	2695	SGMR	4	S/F	1526.1	1527.8	7.7	38.0			QL=6 ST=2 TYP=3
	1415	SGMR	8	S	1553.0	1553.8	1.0	19.0			QL=6 ST=2 TYP=3
	610	SGMR	8	S	1553.1	1553.8	1.7	33.0			QL=6 ST=2 TYP=3
	245	SGMR	47	GB	1553.1	1554.0	2.0	70.0			QL=5 ST=2 TYP=5
	410	SGMR	8	S	1553.6	1553.8	.5	24.0			QL=6 ST=2 TYP=3
	2800	OTTA	45	C	1616.0	1621.8	24.0	65.0	25.2		
	2695	SGMR	47	GB	1626.8	1627.8	2.7	58.0			QL=6 ST=3 TYP=5
	410	SGMR	47	GB	1626.8	1628.3	5.7	89.0			QL=6 ST=3 TYP=5

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
16	610	SGMR	47	GB	1626.8	1628.8	15.3	110.0			QL=6 ST=3 TYP=5
	245	SGMR	8	S	1627.8	1628.3	.8	20.0			QL=6 ST=3 TYP=3
	610	SGMR	47	GB	1646.5	1646.6	.8	200.0			QL=6 ST=3 TYP=5
	2800	OTTA	45	C	1646.5	1647.0	11.0	25.0	7.0		
	9400	HUAN	1	S	1652.5	1653.2	2.5	11.1	5.4		0
	2800	OTTA	20	GRF	1733.0	1736.0	22.0	5.2	2.6		
	2800	OTTA	23	GRF	1920.0	1932.0	90.0	24.0			
	2800	OTTA	4	S/F	1926.0	1928.8	5.5	25.0	12.4		
	9400	HUAN	2	S/F	1926.0	1928.7	3.1	23.6	13.4		0
	4995	PALE	8	S	1927.6	1928.3	2.0	29.0			QL=6 ST=2 TYP=3
	8800	PALE	8	S	1927.8	1928.6	.8	19.0			QL=6 ST=2 TYP=3
	1415	PALE	8	S	1928.0	1928.1	1.1	37.0			QL=6 ST=2 TYP=3
	9400	HUAN	29	PBI	1930.9	1930.9	27.5	11.1	6.7		0
	9400	HUAN	21	GRF	2032.1	2044.0	21.7	2.8	1.1		0
	9400	HUAN	2	S/F	2038.7	2041.0	4.5	11.8	6.1		0
	410	PALE	8	S	2040.6	2040.8	.5	40.0			QL=6 ST=2 TYP=3
	2695	PENT	260	FAL	2110.0	2125.0	15.0	-8.0	-4.0		
	9400	HUAN	1	S	2210.5	2211.1	4.1	18.1	2.9		R
	8800	LEAR	8	S	2210.8	2211.1	.8	25.0			QL=5 ST=2 TYP=3
	15400	LEAR	8	S	2211.0	2211.1	.3	15.0			QL=6 ST=2 TYP=3
	2000	TYKW	5	S	2310.0	2310.4	2.0	13.0	5.0		
	3750	TYKW	45	C	2310.0	2310.8	2.0	31.0	10.0		
	1000	TYKW	45	C	2310.0	2310.8	2.0	20.0	6.0		
	4995	LEAR	8	S	2310.1	2310.3	1.5	19.0			QL=6 ST=2 TYP=3
	4995	PALE	8	S	2310.1	2310.3	.5	21.0			QL=6 ST=2 TYP=3
	1415	LEAR	8	S	2310.1	2310.3	1.9	20.0			QL=6 ST=2 TYP=3
	2695	LEAR	4	S/F	2310.1	2310.3	2.2	29.0			QL=6 ST=2 TYP=3
	1415	PALE	8	S	2310.3	2310.3	.3	17.0			QL=6 ST=2 TYP=3
	15400	LEAR	8	S	2310.6	2310.8	1.7	8.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	2310.6	2310.8	.5	7.0			QL=5 ST=2 TYP=3
	1000	TYKW	29	PBI	2312.0		20.0	2.0	1.0		
	2000	TYKW	29	PBI	2312.0		15.0	1.5	.7		
	3750	TYKW	29	PBI	2312.0		20.0	3.0	1.5		
	3750	TYKW	20	GRF	2347.0	2357.0	70.0	5.0	2.5		
	8800	LEAR	8	S	2349.1	2349.3	.5	19.0			QL=5 ST=2 TYP=3
	9400	TYKW	5	S	2349.2	2349.4	1.5	8.0	3.0		RAIN
	2000	TYKW	20	GRF	2350.0	0020.0	90.0	3.0	1.5		
	9400	TYKW	20	GRF	2351.0	0008.5	55.0	12.0U	5.0U		
17	200	GORK	44	NS	0631.0E		315.0D		5.0		
	100	GORK	44	NS	0632.0E		150.0D		5.0		
	245	PALE	43	NS	1803.0	1816.6		100.0			QL=6 ST=3 TYP=1
	15400	LEAR	8	S	0003.1	0003.3	.5	23.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0007.8	0007.8	2.8	13.0			QL=5 ST=2 TYP=3
	4995	LEAR	8	S	0008.1	0008.3	.5	4.0			QL=6 ST=2 TYP=3
	15400	LEAR	8	S	0008.1	0008.6	1.5	9.0			QL=6 ST=2 TYP=3
	1000	TYKW	20	GRF	0010.0	0020.0	40.0	2.0	1.0		
	9400	TYKW	5	S	0049.5	0050.4	3.0	6.0	2.0		RAIN
	610	LEAR	47	GB	0117.3	0117.3	.3	64.0			QL=6 ST=2 TYP=5
	610	PALE	47	GB	0117.3	0117.5	.5	68.0			QL=6 ST=2 TYP=5
	9400	TYKW	28	PRE	0122.0	0126.3	23.0	13.0	7.0		RAIN
	1000	TYKW	5	S	0122.2	0122.4	1.5	1.5	.5		
	2840	PEKG	28	PRE	0123.0	0139.3	21.0	4.8	2.3		
	2000	TYKW	45	C	0126.0	0126.3	.5	11.0	3.0		
	15400	LEAR	8	S	0126.1	0126.3	.5	9.0			QL=6 ST=3 TYP=3
	8800	LEAR	8	S	0126.1	0126.3	.4	11.0			QL=5 ST=3 TYP=3
	2000	TYKW	28	PRE	0130.0	0145.0	15.0	1.5	.7		
	9395	PEKG	45	C	0139.0	0146.1	21.0	264.5	58.0		
	9395	PEKG			0139.0	0149.2		271.5			
	1000	TYKW	28	PRE	0140.0	0145.0	5.0	2.0	1.0		
	3750	TYKW	45	C	0144.0	0146.1	20.0	128.0	28.0		
	3750	TYKW			0144.0	0149.2		126.0			
	2840	PEKG	45	C	0144.0	0146.1	18.0	148.0	39.0		
	2840	PEKG			0144.0	0148.7		97.3			
	9400	TYKW			0145.0	0146.1		345.0			
	2000	TYKW	45	C	0145.0	0146.6	11.0	107.0	33.0		
	2000	TYKW			0145.0	0148.6		94.0			
	9400	TYKW	45	C	0145.0	0149.2	15.0	351.0	80.0		
	1000	TYKW	47	GB	0145.0	0149.9	10.0	525.0	70.0		
	8800	LEAR	47	GB	0145.0	0146.0	16.1	360.0			QL=5 ST=3 TYP=5
	8800	PALE	47	GB	0145.0	0146.0	14.6	360.0			QL=6 ST=2 TYP=5

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
17	1415	MANI	47	GB	0145.0	0146.6	10.3	230.0			QL=6 ST=2 TYP=5
	1415	MANI	4	S/F	0145.0	0146.7	6.5	233.3	77.8		
	208	VORO	48	C	0145.0	0152.0	15.0	200.0D			
	4995	LEAR	47	GB	0145.1	0146.0	16.0	160.0			QL=6 ST=2 TYP=5
	15400	LEAR	47	GB	0145.1	0146.0	16.0	300.0			QL=6 ST=2 TYP=5
	4995	PALE	47	GB	0145.1	0146.0	14.5	160.0			QL=6 ST=2 TYP=5
	2695	LEAR	47	GB	0145.1	0146.3	8.7	130.0			QL=6 ST=2 TYP=5
	17000	NOBE	7	C	0145.2	0146.2	14.0	260.0			L-R
	500	HIRA	48	C	0145.2	0148.6	12.0	2500.0	300.0		SL
	245	LEAR	49	GB	0145.3	0145.3	12.5	210.0			QL=6 ST=2 TYP=6
	410	LEAR	49	GB	0145.3	0145.8	9.8	1000.0			QL=6 ST=2 TYP=6
	15400	PALE	47	GB	0145.3	0146.0	14.3	330.0			QL=6 ST=2 TYP=5
	410	PALE	49	GB	0145.3	0146.1	9.8	1100.0			QL=6 ST=2 TYP=6
	1415	LEAR	47	GB	0145.3	0146.3	9.5	340.0			QL=6 ST=2 TYP=5
	200	HIRA	42	SER	0145.3	0149.0	51.0	9400.0			WL
	245	PALE	49	GB	0145.3	0149.1	14.3	8700.0			QL=6 ST=2 TYP=6
	1415	PALE	49	GB	0145.5	0146.3	5.3	300.0			QL=6 ST=2 TYP=6
	4995	MANI	47	GB	0145.5	0149.6	5.6	169.0			QL=6 ST=2 TYP=5
	4995	MANI	4	S/F	0145.5	0149.6	5.5	175.9	58.6		
	610	LEAR	49	GB	0145.8	0146.0	9.3	230.0			QL=6 ST=2 TYP=6
	610	PALE	49	GB	0145.8	0146.1	9.0	260.0			QL=6 ST=2 TYP=6
	35000	NAGO	20	GRF	0146.0	0149.0	24.0	90.0			
	100	HIRA	48	C	0148.0	0149.2	7.1	10000.0D	1460.0D		
	1000	TYKW	30	PBI	0155.0		10.0	2.0	1.0		
	1000	TYKW	5	S	0156.0	0157.3	3.0	2.5	1.0		
	2000	TYKW	45	C	0157.0	0157.3	2.0	3.0	1.5		
	9400	TYKW	30	PBI	0200.0		70.0	24.0	10.0		
	2000	TYKW	5	S	0200.0	0201.4	3.0	3.0	1.0		
	9395	PEKG	30	PBI	0200.0		46.0D	24.9	24.0U		
	2840	PEKG	30	PBI	0202.0		59.0D	12.0	10.4		
	2000	TYKW	30	PBI	0203.0		15.0	1.0	.5		
	3750	TYKW	30	PBI	0204.0		65.0	6.0	3.0		
	1000	TYKW	5	S	0207.0	0209.3	7.0U	3.0	1.0		INTERFERENCE
	2000	TYKW	5	S	0207.0	0209.5	9.0	6.0	2.5		
	3750	TYKW	45	C	0208.0	0209.3	4.0	3.5	1.5		
	100	HIRA	24	R	0208.0	0400.0	320.0D	120.0	78.0		SL
	9400	TYKW	45	C	0220.0	0221.6	16.0	32.0	14.0		
	3750	TYKW	5	S	0220.0	0224.3	20.0	24.0	12.0		
	9395	PEKG	45	C	0220.0	0221.6	16.0	24.3	6.2		
	2840	PEKG	45	C	0220.0	0224.0	17.0	60.0	13.9		
	17000	NOBE	1	S	0220.7	0221.6	8.0	49.0			L
	2000	TYKW	45	C	0221.0	0224.4	17.0	113.0	18.0		
	1000	TYKW	21	GRF	0221.0	0244.0	75.0	3.0	1.5		
	15400	LEAR	4	S/F	0221.0	0221.5	4.8	47.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0221.1	0222.1	6.9	26.0			QL=5 ST=3 TYP=3
	245	LEAR	8	S	0221.8	0222.1	.3	20.0			QL=6 ST=2 TYP=3
	1000	TYKW	5	S	0222.0	0222.3	3.0	2.0	.7		
	2695	LEAR	47	GB	0222.3	0223.3	5.7	100.0			QL=6 ST=2 TYP=5
	4995	LEAR	4	S/F	0222.5	0223.5	5.5	11.0			QL=6 ST=2 TYP=3
	1415	LEAR	47	GB	0224.6	0224.8	.7	78.0			QL=6 ST=2 TYP=5
	1000	TYKW	5	S	0230.0	0230.3	1.0	2.5	.7		
	1000	TYKW	5	S	0232.5	0233.0	1.5	4.0	1.0		
	9400	TYKW	29	PBI	0236.0		25.0	8.0	3.0		
	2000	TYKW	29	PBI	0238.0		70.0	10.0	3.0		
	3750	TYKW	29	PBI	0240.0		26.0	8.0	4.0		
	1000	TYKW	20	GRF	0256.0	0312.0	35.0	2.0	1.0		
	200	HIRA	24	R	0312.0	0455.0	240.0D	27.0	15.0		ML
	3750	TYKW	5	S	0330.0	0332.7	6.0	6.0	3.0		
	9400	TYKW	28	PRE	0350.0	0353.0	12.0	4.0	2.0		RAIN
	9395	PEKG	28	PRE	0350.0	0359.2	12.0	10.6	6.2		
	2000	TYKW	28	PRE	0359.0	0420.0	21.0	5.0	3.0		
	3750	TYKW			0359.0	0425.4		33.0			
	3750	TYKW	45	C	0359.0	0441.5	75.0	55.0	20.0		
	2840	PEKG	21	GRF	0401.0	0421.0	91.0D	72.0	17.3		
	9400	TYKW			0402.0	0414.5		13.0			
	9400	TYKW	45	C	0402.0	0425.4	70.0	34.0	18.0		
	9400	TYKW			0402.0	0441.6		31.0			
	9395	PEKG	45	C	0402.0	0425.4	32.0	30.0	17.5		
	8800	LEAR	4	S/F	0402.3	0424.3	69.7	31.0			QL=6 ST=2 TYP=3
	2000	TYKW	45	C	0403.0	0404.3	3.0	10.0	2.0		
	2695	LEAR	47	GB	0403.5	0422.3	68.5	200.0			QL=6 ST=2 TYP=5

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
17	4995	LEAR	47	GB	0403.8	0424.3	68.2	31.0			QL=6 ST=2 TYP=5
	15400	LEAR	4	S/F	0404.3	0423.6	67.7	13.0			QL=6 ST=2 TYP=3
	2000	TYKW	45	C	0420.0	0422.2	15.0	98.0	7.0		
	2840	PEKG	45	C	0421.0	0425.4	47.0	12.9	9.3		
	2840	PEKG			0421.0	0441.8		25.5			
	1415	LEAR	8	S	0422.1	0422.3	1.2	33.0			QL=6 ST=2 TYP=3
	2000	TYKW	30	PBI	0435.0		150.0	8.0	4.0		
	2000	TYKW	45	C	0438.0	0441.2	6.0	22.0	2.5		
	2000	TYKW	21	GRF	0438.0	0448.0	32.0	5.0	2.0		
	245	LEAR	8	S	0439.8	0440.0	.3	20.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0439.8	0440.0	.3	8.0			QL=6 ST=2 TYP=3
	610	LEAR	8	S	0439.8	0440.0	.3	4.0			QL=6 ST=2 TYP=3
	9400	TYKW	30	PBI	0512.0		110.00	14.0	11.00		
	3750	TYKW	30	PBI	0514.0		105.00	13.0	11.00		
	2000	TYKW	28	PRE	0515.0	0519.0	4.0	3.0	1.5		
	2840	PEKG	46	C	0518.0	0519.7	13.0	137.0	10.3		
	2695	LEAR	47	GB	0518.6	0519.6	4.2	100.0			QL=6 ST=2 TYP=5
	3750	TYKW	45	C	0519.0	0519.6	6.0	90.0	16.0		
	1000	TYKW	45	C	0519.0	0520.3	3.0	71.0	12.0		
	2000	TYKW	45	C	0519.0	0520.8	4.0	170.0	13.0		
	4995	LEAR	47	GB	0519.1	0519.5	2.7	98.0			QL=6 ST=2 TYP=5
	610	LEAR	8	S	0519.1	0520.1	1.9	19.0			QL=6 ST=2 TYP=3
	1415	LEAR	47	GB	0519.1	0520.1	2.2	200.0			QL=6 ST=2 TYP=5
	8800	LEAR	47	GB	0519.3	0519.5	2.8	50.0			QL=6 ST=2 TYP=5
	9400	TYKW	45	C	0519.3	0519.6	5.0	27.0	9.0		
	15400	LEAR	4	S/F	0519.3	0519.6	4.3	20.0			QL=6 ST=2 TYP=3
	2000	TYKW	30	PBI	0523.0		100.0	4.0	2.0		
	2695	LEAR	4	S/F	0527.3	0528.5	3.8	8.0			QL=6 ST=2 TYP=3
	2000	TYKW	5	S	0528.0	0528.8	3.0	6.0	2.0		
	3750	TYKW	5	S	0528.0	0528.8	2.0	2.5	1.0		
	9400	TYKW	21	GRF	0530.0	0610.0	90.0	6.0	3.0		
	8800	LEAR	4	S/F	0533.3	0534.1	3.0	7.0			QL=6 ST=2 TYP=3
	9400	TYKW	5	S	0533.7	0534.2	1.0	3.0	1.0		
	3750	TYKW	21	GRF	0543.0	0558.0	65.0	5.0	2.0		
	2000	TYKW	20	GRF	0545.0	0557.0	75.0	4.0	2.0		
	9400	TYKW	5	S	0600.0	0600.5	1.0	29.0	7.0		
	15400	LEAR	47	GB	0600.1	0600.3	1.4	130.0			QL=6 ST=2 TYP=5
	15000	KISV	8	S	0600.1	0600.5	1.0	158.0			
	8800	LEAR	8	S	0600.3	0600.3	.8	32.0			QL=6 ST=2 TYP=3
	17000	NOBE	3	S	0600.3	0600.5	3.0	155.0			L
	6100	KISV	1	S	0600.3	0600.5	1.0	6.0			
	9400	TYKW	29	PBI	0601.0		7.0	5.0	2.0		
	15000	KISV	29	PBI	0601.0	0601.0	12.0	19.0			
	6100	KISV	28	PRE	0620.6	0623.0	8.5	6.0			
	3750	TYKW	45	C	0621.0	0622.8	5.0	9.0	3.0		
	9100	GORK	3	S	0628.9	0629.3	1.3	46.0			
	9400	TYKW	5	S	0629.0	0629.4	1.0	37.0	12.0		
	4995	LEAR	8	S	0629.0	0629.3	1.1	17.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	0629.0	0629.3	.6	49.0			QL=6 ST=2 TYP=3
	15400	LEAR	8	S	0629.0	0629.3	1.6	18.0			QL=6 ST=2 TYP=3
	6100	KISV	46	C	0629.1	0629.4	7.0	22.0			
	15000	KISV	2	S/F	0629.1	0629.4	15.0	24.0			
	6100	KISV			0629.1	0632.2		10.0			
	9400	TYKW	29	PBI	0630.0		20.0	6.0	3.0		
	6100	KISV	29	PBI	0636.0	0636.0	24.0	5.0			
	100	GORK	46	C	0700.7	0701.1	3.0	150.00			
	100	GORK			0700.7	0702.5		150.00			
	15400	LEAR	4	S/F	0715.6	0715.8	3.0	15.0			QL=6 ST=2 TYP=3
	6100	KISV	2	S/F	0730.7	0732.3	4.0	8.0			
	4995	LEAR	20	GRF	0730.8	0732.1	4.8	11.0			QL=6 ST=2 TYP=2
	6100	KISV	29	PBI	0734.7	0735.0	8.0	3.0			
	113	POTS	4	S/F	0800.5	0800.6	.8	320.0	15.0		
	6100	KISV	46	C	0801.0	0808.7	12.0	21.0			
	6100	KISV			0801.0	0811.0		13.0			
	9100	GORK	20	GRF	0804.0	0807.0	51.0	25.0			
	8800	LEAR	4	S/F	0804.8	0808.6	9.3	26.0			QL=5 ST=2 TYP=3
	4995	LEAR	4	S/F	0804.8	0808.6	11.8	20.0			QL=6 ST=2 TYP=3
	2950	GORK	20	GRF	0806.0	0811.0	10.2	6.1			
	9500	POTS	3	S	0808.0	0808.6	2.0	15.0			
	2695	LEAR	20	GRF	0808.1	0809.6	8.0	10.0			QL=6 ST=2 TYP=2
	6100	KISV	29	PBI	0813.0	0813.0	30.0	9.0			

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
17	3100	CRIM	26	FAL	0815.0	1120.0		18.0			
	930	BORD	8	S	0818.2	0818.3	.2	41.0	2.0		
	15000	KISV	2	S/F	0850.1	0850.3	1.5	17.0			
	6100	KISV	1	S	0850.1	0850.3	.5	4.0			
	6100	KISV	23	GRF	0850.5	0912.2	44.0	6.0			
	6100	KISV	28	PRE	0954.0	1000.8	7.0	5.0			
	2950	GORK	21	GRF	0956.8	1006.0	27.0	20.0			
	3100	CRIM	3	S	0959.4	1002.5	5.0	98.0	33.0		
	11800	BERN	3	S	0959.5	1002.4	30.0U	31.0			
	8400	BERN	4	S/F	0959.5	1002.4	30.0U	88.0			
	3100	BERN	4	S/F	0959.5	1002.6	30.0U	93.0			
	5200	BERN	4	S/F	0959.5	1002.6	30.0U	121.0			
	2650	DWIN	4	S/F	1000.0	1002.0	5.0	90.0	40.0		
	9500	POTS	29	PBI	1000.0	1002.4	35.0	66.0			
	9100	GORK	4	S/F	1000.8	1002.5	3.8	80.0			
	8800	ATHN	47	GB	1000.8	1003.1	11.7	54.0			QL=6 ST=2 TYP=5
	3000	POTS	29	PBI	1001.0	1002.5	28.0	81.0			
	6100	KISV	46	C	1001.0	1002.5	5.0	87.0			
	15000	KISV	45	C	1001.0	1002.5	4.0	29.0			
	3000	IZMI	7	C	1001.0	1002.8	4.0	64.0	30.0		
	6100	KISV			1001.0	1003.4		56.0			
	6100	KISV			1001.0	1004.4		42.0			
	15000	KISV			1001.0	1004.4		14.0			
	4995	LEAR	47	GB	1001.1	1002.6	5.2	99.0			QL=6 ST=2 TYP=5
	2695	ATHN	47	GB	1001.1	1003.1	11.4	84.0			QL=2 ST=2 TYP=5
	8800	LEAR	47	GB	1001.3	1002.5	3.8	80.0			QL=6 ST=2 TYP=5
	4995	ATHN	47	GB	1001.3	1003.1	11.2	67.0			QL=2 ST=2 TYP=5
	15400	LEAR	8	S	1001.6	1002.5	1.2	24.0			QL=6 ST=2 TYP=3
	2695	LEAR	47	GB	1001.6	1002.6	4.2	68.0			QL=6 ST=2 TYP=5
	2950	GORK	4	S/F	1001.8	1002.5	3.4	61.0			
	3100	CRIM	29	PBI	1003.9	1004.4	4.1	22.0	7.0		
	9100	GORK	29	PBI	1004.6	1004.6	24.0	25.0			
	15000	KISV	29	PBI	1005.0	1005.0	15.0	8.0			
	6100	KISV	29	PBI	1006.0	1006.0	28.0	18.0			
	260	ONDR	40	F	1030.0	1041.0	13.0	3.0			
	260	ONDR	1	S	1134.0	1135.0	2.0	24.0			
	204	IZMI	4	S/F	1134.8	1135.0	1.0	80.0	40.0		
	113	POTS	4	S/F	1135.0	1135.0	.4	1400.0	350.0		III
	113	POTS	8	S	1253.3	1253.4	.5	125.0	40.0		III
	930	BORD	41	F	1329.4	1329.6	.2	89.0	2.0		
	9400	HUAN	3	S	1517.2	1519.0	3.1	26.4	13.2		L
	9400	HUAN	29	PBI	1520.3	1520.3	7.1	5.3	3.2		L
	2800	OTTA	21	GRF	1600.0	1700.0	130.0	12.2	6.1		
	9400	HUAN	21	GRF	1640.6	1712.7	60.4	18.4	13.0		L
	2800	OTTA	1	S	1642.0	1645.5	7.0	6.6	3.0		
	8800	SGMR	4	S/F	1643.8	1644.6	3.5	20.0			QL=6 ST=2 TYP=3
	4995	SGMR	8	S	1644.1	1645.0	1.0	11.0			QL=6 ST=2 TYP=3
	1415	SGMR	8	S	1645.1	1645.3	.7	20.0			QL=6 ST=2 TYP=3
	245	SGMR	8	S	1649.1	1651.0	2.0	31.0			QL=6 ST=2 TYP=3
	1415	SGMR	8	S	1651.6	1652.3	.9	17.0			QL=6 ST=2 TYP=3
	2800	OTTA	4	S/F	1651.7	1654.8	7.0	25.0	12.5		
	4995	SGMR	4	S/F	1651.8	1654.6	5.7	30.0			QL=6 ST=2 TYP=3
	2695	SGMR	4	S/F	1652.0	1653.6	5.3	31.0			QL=6 ST=2 TYP=3
	9400	HUAN	2	S/F	1652.7	1654.3	4.5	14.5	9.0		0
	8800	SGMR	4	S/F	1652.8	1654.6	8.2	42.0			QL=6 ST=2 TYP=3
	15400	SGMR	4	S/F	1654.3	1655.6	2.8	33.0			QL=6 ST=2 TYP=3
	245	SGMR	47	GB	1655.8	1656.1	1.0	61.0			QL=6 ST=2 TYP=5
	610	SGMR	4	S/F	1659.1	1700.6	6.4	37.0			QL=6 ST=2 TYP=3
	410	SGMR	4	S/F	1705.0	1706.1	3.3	24.0			QL=6 ST=2 TYP=3
	9400	HUAN	1	S	1705.1	1706.0	2.1	9.2	6.1		0
	8800	SGMR	47	GB	1708.3	1709.6	10.2	72.0			QL=6 ST=2 TYP=5
	4995	SGMR	20	GRF	1708.3	1709.8	3.0	20.0			QL=6 ST=2 TYP=2
	15400	SGMR	47	GB	1708.3	1709.8	11.5	56.0			QL=6 ST=2 TYP=5
	245	SGMR	4	S/F	1708.6	1710.5	2.9	46.0			QL=6 ST=2 TYP=3
	9400	HUAN	3	S	1708.7	1709.7	2.8	27.8	9.9		L
	2800	OTTA	1	S	1732.0	1735.0	10.0	3.2	1.5		
	245	PALE	47	GB	1807.8	1808.6	17.5	78.0			QL=6 ST=2 TYP=5
	9400	HUAN	23	GRF	1811.7	1908.7	271.5	134.4	55.6		L
	2800	OTTA	21	GRF	1815.0	2020.0	240.0	18.2			
	9400	HUAN	1	S	1815.2	1816.1	2.3	11.9	8.3		0
	410	PALE	8	S	1816.5	1816.6	.3	19.0			QL=6 ST=2 TYP=3

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Day	Freq	Sta*	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
17	9400	HUAN	1	S	1818.8	1819.6	2.2	14.5	7.0		L
	9400	HUAN	8	S	1831.7	1832.1	1.0	21.1	6.1		L
	9400	HUAN	1	S	1838.2	1839.5	2.5	15.8	9.4		L
	2800	OTTA	28	PRE	1839.0		12.5	21.0			
	4995	SGMR	49	GB	1848.6	1854.3	14.4	2000.0			QL=6 ST=2 TYP=7
	2695	SGMR	49	GB	1849.0	1854.1	15.0	1899.0			QL=6 ST=2 TYP=7
	8800	SGMR	49	GB	1849.8	1854.8	45.0	3000.0			QL=6 ST=2 TYP=7
	9400	HUAN	47	GB	1850.2	1854.8	10.2	3907.9	2947.8		L
	610	PALE	49	GB	1850.6	1853.0	21.7	4400.0			QL=6 ST=2 TYP=7
	610	SGMR	49	GB	1850.6	1853.0	44.2	4800.0			QL=6 ST=2 TYP=7
	1415	SGMR	49	GB	1850.8	1854.5	23.2	46000.0			QL=6 ST=2 TYP=7
	1415	PALE	49	GB	1851.0	1854.3	17.6	66000.0			QL=6 ST=2 TYP=7
	15400	SGMR	49	GB	1851.0	1854.6	43.8	4000.0			QL=6 ST=2 TYP=7
	4995	PALE	49	GB	1851.3	1854.8	10.8	1800.0			QL=6 ST=2 TYP=7
	2800	OTTA	47	GB	1851.5	1854.2	15.0	1655.0	383.0		
	8800	PALE	49	GB	1851.5	1854.8	20.8	3399.0			QL=6 ST=2 TYP=7
	15400	PALE	49	GB	1851.6	1854.8	20.7	3899.0			QL=6 ST=2 TYP=7
	410	SGMR	49	GB	1852.6	1854.8	42.2	740.0			QL=6 ST=2 TYP=7
	410	PALE	49	GB	1852.8	1854.8	19.5	660.0			QL=6 ST=2 TYP=7
	245	SGMR	49	GB	1855.3	1856.5	39.5	4400.0			QL=6 ST=2 TYP=7
	245	PALE	49	GB	1855.3	1857.3	17.0	20000.0			QL=6 ST=2 TYP=7
	2800	OTTA	4	S/F	1917.0	1941.5	59.0	276.0	101.0		
	15400	PALE	47	GB	1934.1	1934.3	10.0	68.0			QL=6 ST=2 TYP=5
	245	PALE	49	GB	1934.1	1935.0	10.0	3399.0			QL=6 ST=2 TYP=6
	410	PALE	49	GB	1934.1	1935.5	10.0	86.0			QL=6 ST=2 TYP=6
	4995	PALE	47	GB	1934.1	1935.6	10.0	61.0			QL=6 ST=2 TYP=5
	1415	PALE	49	GB	1934.1	1936.3	10.0	500.0			QL=6 ST=2 TYP=6
	610	PALE	49	GB	1934.1	1936.3	10.0	930.0			QL=6 ST=2 TYP=6
	8800	PALE	47	GB	1936.3	1936.8	5.8	180.0			QL=6 ST=2 TYP=5
	410	SGMR	49	GB	1943.3	1943.5	21.8	520.0			QL=6 ST=2 TYP=6
	245	SGMR	49	GB	1943.3	1943.5	21.0	700.0			QL=6 ST=2 TYP=6
	610	SGMR	49	GB	1943.3	1943.5	35.2	700.0			QL=6 ST=2 TYP=6
	1415	SGMR	47	GB	1943.3	1943.5	30.0	480.0			QL=6 ST=2 TYP=5
	15400	SGMR	47	GB	1943.3	1943.5	13.3	79.0			QL=6 ST=2 TYP=5
	4995	SGMR	47	GB	1943.3	1943.5	16.0	100.0			QL=6 ST=2 TYP=5
	2695	SGMR	47	GB	1943.3	1943.5	28.5	270.0			QL=6 ST=2 TYP=5
	8800	SGMR	47	GB	1943.3	1944.3	14.0	73.0			QL=6 ST=2 TYP=5
	410	PALE	4	S/F	2011.3	2011.8	14.3	32.0			QL=6 ST=2 TYP=3
	245	PALE	47	GB	2011.3	2013.3	14.3	110.0			QL=6 ST=2 TYP=5
	610	PALE	8	S	2011.6	2012.8	1.4	11.0			QL=6 ST=2 TYP=3
	15400	PALE	8	S	2012.1	2013.8	2.0	26.0			QL=6 ST=2 TYP=3
	245	SGMR	4	S/F	2020.1	2020.6	9.5	81.0			QL=6 ST=2 TYP=3
	410	SGMR	20	GRF	2020.1	2021.5	7.0	26.0			QL=6 ST=2 TYP=2
	9400	HUAN	1	S	2026.2	2027.0	2.0	9.2	6.4		0
	2800	OTTA	1	S	2026.8	2027.0	2.0	4.0	1.8		
	2800	OTTA	22	GRF	2030.0	2032.0	17.0	13.0	6.5		
	410	PALE	47	GB	2037.8	2038.0	3.8	60.0			QL=6 ST=2 TYP=5
	245	PALE	47	GB	2037.8	2047.5	20.8	71.0			QL=6 ST=2 TYP=5
	610	PALE	8	S	2039.0	2039.1	.3	16.0			QL=6 ST=2 TYP=3
	15400	PALE	4	S/F	2039.1	2039.3	2.2	22.0			QL=6 ST=2 TYP=3
	8800	PALE	49	GB	2039.3	2039.6	.7	1300.0			QL=6 ST=2 TYP=6
	2695	PENT	3	S	2102.0	2106.0	18.0	205.0	40.0		
	9400	HUAN	45	C	2104.5	2106.4	12.7	105.4	56.1		R
	8800	PALE	47	GB	2104.6	2106.1		139.0			QL=6 ST=3 TYP=5
	1415	PALE	47	GB	2104.6	2106.3		50.0			QL=6 ST=3 TYP=5
	4995	PALE	47	GB	2104.6	2106.5		139.0			QL=6 ST=3 TYP=5
	15400	PALE	47	GB	2105.5	2107.1		54.0			QL=6 ST=3 TYP=5
	410	PALE	4	S/F	2111.3	2112.8	4.3	47.0			QL=6 ST=2 TYP=3
	245	PALE	4	S/F	2115.3	2119.6	4.8	40.0			QL=6 ST=2 TYP=3
	2695	PENT	47	GB	2130.0	2147.0	30.0	530.0	76.0		
	15400	PALE	47	GB	2130.3	2142.8	18.8	94.0			QL=6 ST=2 TYP=5
	245	PALE	47	GB	2130.6	2136.6	6.5	80.0			QL=6 ST=2 TYP=5
	610	PALE	8	S	2133.1	2133.1	.2	18.0			QL=6 ST=2 TYP=3
	1415	PALE	47	GB	2135.0	2138.6	14.1	53.0			QL=6 ST=2 TYP=5
	4995	PALE	49	GB	2137.8	2138.6	11.3	20.0			QL=6 ST=2 TYP=6
	100	HIRA	46	C	2138.0E	2146.5	19.0D	10000.0D	395.0D		SUNRISE
	8800	PALE	49	GB	2139.1	2142.6	10.0	110.0			QL=6 ST=2 TYP=6
	200	HIRA	46	C	2141.0E	2147.4	34.0D	1400.0U	70.0U		ML,SUNRISE
	410	PALE	47	GB	2143.3	2145.3	5.8	29.0			QL=6 ST=2 TYP=5
	3750	TYKW	45	C	2242.0	2250.2	15.0	96.0	24.0		
	9400	TYKW	21	GRF	2242.0	2300.0	95.0	30.0	14.0		

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
17	2000	TYKW	5	S	2244.0	2250.3	9.0	30.0	9.0		
	2695	PENT			2245.0	2250.0	9.0	91.0			
	8800	PALE	47	GB	2248.3	2250.1	9.5	64.0			QL=6 ST=2 TYP=5
	9400	TYKW	5	S	2248.5	2250.1	2.5	51.0	19.0		
	4995	LEAR	47	GB	2248.8	2250.1	5.7	68.0			QL=6 ST=2 TYP=5
	4995	PALE	47	GB	2248.8	2250.1	7.0	78.0			QL=6 ST=2 TYP=5
	8800	LEAR	47	GB	2249.1	2250.0	5.9	54.0			QL=5 ST=2 TYP=5
	15400	LEAR	4	S/F	2249.1	2250.0	5.9	34.0			QL=6 ST=2 TYP=3
	2695	LEAR	47	GB	2249.1	2250.3	5.4	63.0			QL=6 ST=2 TYP=5
	15400	PALE	4	S/F	2249.3	2249.6	8.2	32.0			QL=6 ST=2 TYP=3
	9400	TYKW	29	PBI	2251.0		8.0	12.0	6.0		
	2000	TYKW	30	PBI	2253.0		150.0	10.0	5.0		
	3750	TYKW	30	PBI	2257.0		135.0	19.0	8.0		
	3750	TYKW	20	GRF	2300.0	2314.0	40.0	7.0	4.0		
	2000	TYKW	20	GRF	2305.0	2315.0	50.0	3.0	1.5		
	1000	TYKW	20	GRF	2340.0	0015.0	75.0	3.0	1.5		
18	208	VORO	43	NS	0040.0		125.0				
	245	LEAR	43	NS	0115.3	0235.1	571.7D	41.0			QL=6 ST=2 TYP=1
	200	GORK	44	NS	0630.0E		270.0D		5.0		
	100	GORK	43	NS	0748.0		165.0		5.0		
	33	UPIC	43	NS	0810.7		379.3D				
	29	UPIC	43	NS	0819.9		370.1D				
	245	PALE	43	NS	1803.0	1816.6	507.0	110.0			QL=6 ST=2 TYP=1
	9400	TYKW	5	S	0042.0	0042.5	2.0	3.0	1.0		
	410	LEAR	8	S	0050.0	0050.1	.1	13.0			QL=6 ST=2 TYP=3
	1000	TYKW	21	GRF	0150.0	0200.0	105.0	2.0	1.0		
	2000	TYKW	5	S	0154.0	0209.9	20.0	6.0	2.0		
	3750	TYKW	20	GRF	0155.0	0237.0	100.0	9.0	4.0		
	2000	TYKW	30	PBI	0214.0		60.0	2.0	1.0		
	2000	TYKW	21	GRF	0219.0	0235.0	35.0	4.0	2.0		
	2000	TYKW	45	C	0220.0	0222.1	3.0	1.5	.5		
	9400	TYKW	21	GRF	0220.0	0237.0	85.0	6.0	3.0		
	1000	TYKW	21	GRF	0222.0	0236.0	60.0	2.0	1.0		
	245	PALE	8	S	0232.5	0232.6	.3	46.0			QL=6 ST=2 TYP=3
	200	HIRA	41	F	0258.0	0303.6	10.5	78.0			ML
	208	VORO	40	F	0258.0	0304.0	11.0	190.0			
	245	PALE	8	S	0258.5	0258.6	.3	21.0			QL=6 ST=2 TYP=3
	2840	PEKG	5	S	0259.0	0302.7	17.0	6.4	1.8		
	9395	PEKG	20	GRF	0300.0	0324.0	49.0	8.6	4.1		
	2000	TYKW	5	S	0301.0	0302.5	9.0	9.0	3.0D		
	500	HIRA	45	C	0301.0	0302.4	2.0	40.0	25.0		SL
	410	LEAR	47	GB	0301.1	0301.8	2.0	90.0			QL=6 ST=2 TYP=5
	410	PALE	47	GB	0301.1	0301.8	1.7	76.0			QL=6 ST=2 TYP=5
	245	LEAR	47	GB	0301.1	0302.0	1.9	70.0			QL=6 ST=2 TYP=5
	245	PALE	47	GB	0301.3	0302.1	1.5	56.0			QL=6 ST=2 TYP=5
	610	PALE	8	S	0301.6	0301.6	.7	22.0			QL=6 ST=2 TYP=3
	610	LEAR	8	S	0301.6	0301.6	.9	20.0			QL=6 ST=2 TYP=3
	1415	LEAR	8	S	0301.6	0302.3	1.9	13.0			QL=6 ST=2 TYP=3
	1415	PALE	8	S	0301.8	0302.3	1.0	17.0			QL=6 ST=2 TYP=3
	1000	TYKW	5	S	0303.0E	0303.0U	3.0D	3.0D	1.0D		
	15400	LEAR	8	S	0303.1	0303.3	1.0	41.0			QL=6 ST=2 TYP=3
	17000	NOBE	7	C	0303.2	0303.5	5.0	51.0			L
	15400	PALE	8	S	0303.3	0303.5	1.7	40.0			QL=6 ST=2 TYP=3
	9400	TYKW	20	GRF	0313.0	0325.0	30.0	4.0	2.0		
	3750	TYKW	5	S	0349.0	0350.9	4.0	93.0	14.0		
	9400	TYKW	5	S	0349.0	0351.0	5.0	480.0	70.0		
	9395	PEKG	45	C	0349.0	0351.0	8.0	334.0	175.0		
	2840	PEKG	45	C	0349.0	0351.0	11.0	106.0	9.2		
	1000	TYKW	5	S	0350.0	0351.0	4.0	52.0	10.0		
	2000	TYKW	5	S	0350.0	0351.0	3.0	135.0	20.0		
	8800	LEAR	47	GB	0350.3	0350.8	5.0	420.0			QL=5 ST=2 TYP=5
	17000	NOBE	8	S	0350.4	0350.9	2.5	800.0			L
	1415	LEAR	47	GB	0350.5	0350.8	1.6	169.0			QL=6 ST=2 TYP=5
	1415	MANI	47	GB	0350.5	0351.0	3.3	87.0			QL=6 ST=2 TYP=5
	4995	MANI	47	GB	0350.5	0351.0	2.0	119.0			QL=6 ST=2 TYP=5
	4995	MANI	3	S	0350.5	0351.1	1.5	126.4	42.1		
	1415	MANI	3	S	0350.5	0351.1	2.5	87.9	29.3		
	4995	LEAR	47	GB	0350.6	0350.8	1.5	100.0			QL=6 ST=2 TYP=5
	2695	LEAR	47	GB	0350.6	0350.8	1.0	97.0			QL=6 ST=2 TYP=5
	410	LEAR	47	GB	0350.8	0350.8	.3	93.0			QL=6 ST=2 TYP=5

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
18	35000	NAGO	5	S	0351.0	0351.0	3.0	40.0			
	15400	LEAR	47	GB	0351.1E	0351.5	4.7D	88.0			QL=2 ST=3 TYP=5
	17000	NOBE	30	PBI	0352.9	0352.9	15.0	25.0			L
	3750	TYKW	30	PBI	0353.0		25.0	8.0	4.0		
	2000	TYKW	30	PBI	0353.0		80.0	5.0	1.5		
	3750	TYKW	5	S	0353.5	0355.3	3.5	19.0	6.0		
	1000	TYKW	30	PBI	0354.0		100.0	3.0	1.5		
	9400	TYKW	30	PBI	0354.0		35.0	18.0	6.0		
	2000	TYKW	5	S	0354.0	0355.3	4.0	6.0	2.0		
	9400	TYKW	5	S	0354.5	0355.2	2.0	14.0	5.0		
	17000	NOBE	1	S	0354.8	0355.3	1.0	13.0			0
	1000	TYKW	5	S	0355.0	0355.8U	2.0	1.0	.3		
	3750	TYKW	29	PBI	0357.0		12.0	3.0	1.5		
	9395	PEKG	29	PBI	0357.0		8.0	9.3	2.5		
	2840	PEKG	29	PBI	0400.0		17.0	6.0	5.2		
	17000	NOBE	1	S	0401.2	0401.8	2.0	25.0			L
	500	HIRA	45	C	0413.4	0430.1	36.0	110.0	60.0		SL
	610	LEAR	47	GB	0421.5	0427.0	14.8	70.0			QL=6 ST=2 TYP=5
	610	LEAR	8	S	0421.6	0422.0	.7	20.0			QL=6 ST=2 TYP=3
	610	LEAR	47	GB	0424.1	0427.0	12.2	70.0			QL=6 ST=3 TYP=5
	9400	TYKW	21	GRF	0438.0	0452.0	35.0	4.0	2.0		
	3750	TYKW	20	GRF	0440.0	0459.0	60.0	3.0	1.5		
	245	LEAR	47	GB	0446.6	0449.6	8.4	59.0			QL=6 ST=2 TYP=5
	4995	LEAR	4	S/F	0458.5	0458.8	3.5	4.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0458.5	0458.8	3.5	8.0			QL=6 ST=2 TYP=3
	9400	TYKW	5	S	0458.5	0459.0	1.5	3.0	1.0		
	245	LEAR	8	S	0500.5	0500.8	.6	16.0			QL=6 ST=2 TYP=3
	245	LEAR	4	S/F	0509.6	0510.0	5.2	38.0			QL=6 ST=2 TYP=3
	410	LEAR	4	S/F	0509.6	0512.0	2.7	8.0			QL=6 ST=2 TYP=3
	610	LEAR	4	S/F	0511.1	0511.3	3.7	10.0			QL=6 ST=2 TYP=3
	2695	LEAR	4	S/F	0512.3	0514.1	64.7	10.0			QL=6 ST=2 TYP=3
	9400	TYKW	5	S	0533.0	0539.0	15.0	4.0	1.5		
	410	LEAR	8	S	0542.1	0542.3	.5	11.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0547.1	0547.6	.7	15.0			QL=6 ST=2 TYP=3
	2000	TYKW	45	C	0556.0	0559.8	6.0	7.0	4.0		
	3750	TYKW	21	GRF	0556.0	0600.0U	45.0	5.0D	2.0D		
	610	LEAR	8	S	0559.5	0559.8	.6	27.0			QL=6 ST=2 TYP=3
	2000	TYKW	30	PBI	0602.0		20.0	2.0	1.0		
	2000	TYKW	45	C	0611.5	0614.0	6.0	5.0	1.5		
	6100	KISV	2	S/F	0612.2	0614.2	5.0	4.0			
	2695	LEAR	4	S/F	0612.3	0614.1	4.7	10.0			QL=6 ST=3 TYP=3
	3750	TYKW	5	S	0613.0	0614.0	5.0	5.0	2.0		
	410	LEAR	4	S/F	0613.0	0614.1	3.5	28.0			QL=6 ST=2 TYP=3
	3100	CRIM	26	FAL	0648.0	0900.0		11.0			
	234	POTS	46	C	0815.0	0826.5	28.0	2300.0			III
	113	POTS	46	C	0815.0	0826.6	28.0	14000.0			III
	650	GORK	47	GB	0815.6	0818.3	30.7	307.0			
	650	GORK			0815.6	0824.5U		1430.0			
	650	GORK			0815.6	0833.4		240.0			
	200	GORK	41	F	0816.0	0819.4	18.8	290.0			
	200	GORK			0816.0	0822.9		310.0			
	950	GORK	47	GB	0816.0	0823.0	19.7	614.0			
	200	GORK			0816.0	0823.5		1060.0			
	204	IZMI	42	SER	0816.0	0823.5	26.0	3000.0			
	200	GORK			0816.0	0826.1		700.0			
	245	LEAR	49	GB	0816.1	0819.0	12.0	770.0			QL=6 ST=2 TYP=6
	1415	MANI	47	GB	0816.1	0822.8	12.9	150.0			QL=6 ST=2 TYP=5
	410	LEAR	49	GB	0816.3	0817.5	11.8	189.0			QL=6 ST=2 TYP=6
	610	LEAR	49	GB	0816.3	0818.1	11.8	660.0			QL=6 ST=2 TYP=6
	1415	MANI	4	S/F	0816.5	0822.9	21.5	154.5	51.5		
	1415	LEAR	47	GB	0816.8	0818.0	11.3	63.0			QL=6 ST=2 TYP=5
	3100	CRIM	3	S	0817.0	0822.1	20.0	794.0	264.0		
	1470	POTS	45	C	0817.0	0822.5	28.0U	230.0			
	2650	DWIN	45	C	0817.0	0823.0	20.0	370.0	150.0		
	6100	KISV			0817.5	0820.2		113.0			
	19600	BERN	47	GB	0817.5	0822.0	25.0	687.0			
	3000	POTS	45	C	0817.5	0822.0	40.0	1200.0			
	11800	BERN	47	GB	0817.5	0822.0	25.0	759.0			
	35000	BERN	47	GB	0817.5	0822.0	25.0	590.0			
	5200	BERN	47	GB	0817.5	0822.1	25.0	752.0			
	3100	BERN	47	GB	0817.5	0822.1	25.0	569.0			

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
18	6100	KISV	47	GB	0817.5	0822.2	12.0	531.0			
	6100	KISV			0817.5	0823.6		226.0			
	6100	KISV			0817.5	0826.2		102.0			
	2950	GORK	46	C	0817.8	0820.1	17.8	156.0			
	2950	GORK			0817.8	0821.1		172.0			
	2950	GORK			0817.8	0822.2		495.0			
	2950	GORK			0817.8	0832.0		84.0			
	2950	GORK			0817.8	0834.6		58.0			
	9500	POTS	45	C	0818.0	0822.0	48.0	605.0			
	9100	GORK	47	GB	0818.0	0822.0	17.0	840.0			
	2695	LEAR	49	GB	0818.1	0819.5	10.0	81.0			QL=6 ST=2 TYP=6
	4995	LEAR	49	GB	0818.8	0819.5	9.3	53.0			QL=6 ST=2 TYP=6
	8800	LEAR	49	GB	0819.0	0819.5	9.1	37.0			QL=6 ST=2 TYP=6
	15000	KISV			0819.0	0820.1		45.0			
	15000	KISV	47	GB	0819.0	0822.0U	10.5	460.0D			
	3000	IZMI	45	C	0819.0	0822.5	11.0	7380.0	130.0		
	4995	MANI	47	GB	0819.0	0822.5	8.3	380.0			QL=6 ST=2 TYP=5
	15000	KISV			0819.0	0823.5		420.0			
	15000	KISV			0819.0	0824.2		140.0			
	4995	MANI	4	S/F	0819.2	0822.5	8.1	385.5	128.5		
	15400	LEAR	49	GB	0819.6	0821.8	8.5	740.0			QL=6 ST=2 TYP=6
	100	GORK	41	F	0819.8	0820.2	14.6	2160.0D			
	100	GORK			0819.8	0823.1		18300.0D			
	100	GORK			0819.8	0826.1		58260.0			
	100	GORK			0819.8	0831.3		2120.0			
	100	GORK			0819.8	0834.2		9700.0			
	4995	LEAR	49	GB	0828.1	0828.1	8.7	840.0			QL=6 ST=2 TYP=6
	1415	LEAR	47	GB	0828.1	0828.1	6.9	300.0			QL=6 ST=2 TYP=5
	8800	LEAR	49	GB	0828.1	0828.1	10.5	960.0			QL=6 ST=2 TYP=6
	15400	LEAR	49	GB	0828.1	0828.1	9.9	740.0			QL=6 ST=2 TYP=6
	2695	LEAR	47	GB	0828.1	0831.8	9.4	100.0			QL=6 ST=2 TYP=5
	410	LEAR	49	GB	0828.1	0832.6	7.2	670.0			QL=6 ST=2 TYP=6
	245	LEAR	49	GB	0828.3	0828.3	7.3	100.0			QL=6 ST=2 TYP=6
	610	LEAR	4	S/F	0828.3	0828.3	7.7	18.0			QL=6 ST=2 TYP=3
	6100	KISV	29	PBI	0829.0	0829.4	25.0	18.0			
	15000	KISV	29	PBI	0829.5	0829.5	7.0	54.0			
	3000	IZMI	7	C	0830.0	0832.2	8.0	70.0	35.0		
	6100	KISV			0830.1	0832.1		33.0			
	6100	KISV	45	C	0830.1	0834.6	6.0	35.0			
	536	ONDR	46	C	0831.0	0834.0	5.0	91.0	65.0		
	9100	GORK	29	PBI	0835.0	0835.3	25.0	90.0			
	2950	GORK	29	PBI	0835.6	0836.0	18.5	19.9			
	3100	CRIM	29	PBI	0837.0	0837.0	23.0	12.0	4.0		
	6100	KISV	1	S	0844.4	0844.8	2.5	6.0			
	245	LEAR	47	GB	0912.1	0913.6	8.0	260.0			QL=6 ST=2 TYP=5
	234	POTS	4	S/F	0913.3	0913.7	1.2	110.0	25.0		
	410	LEAR	47	GB	0917.8	0920.6	4.0	64.0			QL=6 ST=2 TYP=5
	234	POTS	4	S/F	0935.0	0935.4	2.2	330.0	65.0		
	9100	GORK	20	GRF	0943.3	0958.7	63.0	22.0			
	6100	KISV	2	S/F	0944.2	0945.3	2.0	5.0			
	9500	POTS	20	GRF	0950.0	0957.5	94.0	17.0			
	6100	KISV	1	S	0953.3	0954.4	2.0	14.0			
	245	LEAR	47	GB	0954.6	0954.8	1.5	60.0			QL=6 ST=2 TYP=5
	6100	KISV	29	PBI	0955.3	0955.8	28.5	10.0			
	260	ONDR	46	C	1038.0	1040.0	4.0	71.0	34.0		
	15000	KISV	20	GRF	1109.5	1113.2	18.0	27.0			
	15000	KISV	4	S/F	1139.0	1139.4	2.0	98.0			
	9400	HUAN	3	S	1139.0	1139.4	1.8	23.2	11.8		0
	6100	KISV	2	S/F	1139.0	1139.5	2.0	7.0			
	9400	HUAN	29	PBI	1140.8	1140.8	13.0	8.7	2.8		0
	410	SGMR	49	GB	1247.6	1254.3	17.0	8600.0			QL=6 ST=2 TYP=6
	245	SGMR	49	GB	1250.8	1254.1	5.0	1399.0			QL=6 ST=2 TYP=6
	930	BORD	46	C	1251.0	1253.6	9.0	62.0	7.0		
	260	ONDR	46	C	1251.0	1254.0U	5.0	202.0D			
	536	ONDR	46	C	1251.0	1254.5	5.5	227.0	91.0		
	1470	POTS	4	S/F	1251.5	1254.0	5.5	25.0			
	610	SGMR	47	GB	1252.3	1253.8	3.3	420.0			QL=6 ST=2 TYP=5
	234	POTS	4	S/F	1252.6	1254.0	2.9	500.0	125.0		III/V
	2650	DWIN	1	S	1253.0	1253.0	1.0	20.0	10.0		
	808	ONDR	45	C	1253.0	1254.0	2.0	12.0	1.0		
	536	ONDR	29	PBI	1256.5	1257.5	7.0	32.0	18.0		

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
18	808	ONDR	27	RF	1300.0	1301.5	15.0	12.0	8.0		
	8800	ATHN	47	GB	1344.0	1400.5	22.3	71.0			QL=6 ST=2 TYP=5
	410	SGMR	49	GB	1351.8	1354.3	16.7	490.0			QL=6 ST=2 TYP=6
	1415	SGMR	4	S/F	1354.1	1355.8	10.5	16.0			QL=6 ST=2 TYP=3
	260	ONDR	46	C	1356.0	1358.0U	9.0	219.0	94.0		
	245	SGMR	49	GB	1356.3	1358.5	8.8	690.0			QL=6 ST=2 TYP=6
	930	BORD	41	F	1356.5	1359.9	11.0	340.0	5.0		
	9400	HUAN	4	S/F	1356.9	1400.0	5.1	45.0	12.9		R
	2800	OTTA	45	C	1357.0	1358.0	5.0	22.4	8.0		
	2650	DWIN	1	S	1357.0	1357.0	2.0	20.0	10.0		
	2695	SGMR	4	S/F	1357.0	1357.8	5.0	32.0			QL=6 ST=2 TYP=3
	610	SGMR	49	GB	1357.0	1358.1	11.5	180.0			QL=6 ST=2 TYP=6
	1415	ATHN	4	S/F	1357.0	1400.5	4.6	31.0			QL=6 ST=2 TYP=3
	4995	SGMR	47	GB	1357.1	1358.0	5.4	27.0			QL=6 ST=2 TYP=5
	2695	ATHN	4	S/F	1357.5	1358.5	4.1	22.0			QL=2 ST=2 TYP=3
	4995	ATHN	4	S/F	1357.5	1400.5	5.1	47.0			QL=2 ST=2 TYP=3
	536	ONDR	46	C	1358.0	1402.5	9.0	182.0	108.0		
	8800	SGMR	47	GB	1359.6	1359.8	2.2	77.0			QL=6 ST=2 TYP=5
	15400	SGMR	4	S/F	1359.8	1400.0	2.2	40.0			QL=6 ST=2 TYP=3
	808	ONDR	8	S	1400.0	1400.0	1.0	15.0			
	9400	HUAN	29	PBI	1402.0	1402.0	25.4	4.4	3.0		R
	410	SGMR	47	GB	1408.5	1409.0	3.3	270.0			QL=6 ST=2 TYP=5
	2800	OTTA	3A	S	1440.0	1512.0	50.0	245.0	88.0		
	410	SGMR	49	GB	1452.0	1504.6	27.8	6600.0			QL=6 ST=2 TYP=6
	930	BORD	8	S	1455.6	1455.6	.2	21.0	2.0		
	930	BORD	45	C	1502.0	1507.0U	10.0	3090.0D	1340.0		
	2800	OTTA	46F	C	1503.0	1504.5	9.0	9.4	4.0		
	9400	HUAN	47	GB	1503.5	1504.7	6.7	535.8	196.2		R
	4995	SGMR	49	GB	1503.6	1504.8	9.7	700.0			QL=6 ST=2 TYP=6
	1415	SGMR	49	GB	1503.6	1506.0	7.7	820.0			QL=6 ST=2 TYP=6
	610	SGMR	49	GB	1503.6	1506.6	13.9	2399.0			QL=6 ST=2 TYP=6
	245	SGMR	49	GB	1503.8	1504.6	6.5	420.0			QL=6 ST=2 TYP=6
	2695	SGMR	47	GB	1504.0	1504.8	5.8	239.0			QL=6 ST=2 TYP=5
	8800	ATHN	49	GB	1504.1	1504.6	.9	640.0			QL=2 ST=3 TYP=6
	15400	SGMR	47	GB	1504.1	1506.6	9.0	340.0			QL=6 ST=2 TYP=5
	1415	ATHN	49	GB	1504.3	1504.6	.7	500.0			QL=2 ST=3 TYP=6
	2695	ATHN	47	GB	1504.3	1504.6	.7	239.0			QL=2 ST=3 TYP=5
	4995	ATHN	49	GB	1504.3	1504.6	.7	1500.0			QL=2 ST=3 TYP=6
	8800	SGMR	49	GB	1504.3	1504.8	5.8	610.0			QL=6 ST=2 TYP=6
	9400	HUAN	29	PBI	1510.2	1510.2	20.7	16.7	4.6		R
	9400	HUAN	20	GRF	1538.8	1540.8	15.2	7.3	2.2		0
	2800	OTTA	4	S/F	1600.0	1601.1	3.2	46.0	15.4		
	9400	HUAN	1	S	1600.0	1602.2	4.5	11.6	6.4		L
	1415	SGMR	47	GB	1600.6	1601.3	3.0	160.0			QL=6 ST=2 TYP=5
	2695	SGMR	8	S	1601.6	1602.1	1.0	30.0			QL=6 ST=2 TYP=3
	2800	OTTA	29	PBI	1603.2	1603.2	7.0	4.6	2.3		
	9400	HUAN	29	PBI	1604.5	1604.5	17.7	2.9	1.6		0
	410	SGMR	49	GB	1650.8	1651.1	1.7	1000.0			QL=6 ST=2 TYP=6
	610	SGMR	47	GB	1652.6	1652.8	.5	80.0			QL=6 ST=2 TYP=5
	9400	HUAN	2	S/F	1710.2	1710.7	1.8	10.2	4.4		0
	2695	SGMR	8	S	1710.8	1710.8	.3	20.0			QL=6 ST=2 TYP=3
	245	SGMR	49	GB	1710.8	1711.0	.8	540.0			QL=6 ST=2 TYP=6
	410	SGMR	4	S/F	1731.5	1732.6	3.1	78.0			QL=6 ST=2 TYP=3
	245	SGMR	4	S/F	1731.5	1733.6	2.3	30.0			QL=6 ST=2 TYP=3
	610	SGMR	4	S/F	1731.6	1732.0	5.7	65.0			QL=6 ST=2 TYP=3
	610	SGMR	4	S/F	1741.6	1742.3	3.5	49.0			QL=6 ST=2 TYP=3
	8800	PALE	4	S/F	1741.8E	1742.0	23.0D	43.0			QL=6 ST=2 TYP=3
	2800	OTTA	20	GRF	1830.0	1930.0	140.0	5.6	2.4		
	410	PALE	8	S	1855.5	1856.0	1.1	31.0			QL=6 ST=2 TYP=3
	610	PALE	8	S	1918.6	1918.8	.4	22.0			QL=6 ST=2 TYP=3
	610	PALE	8	S	1923.8	1924.5	.8	17.0			QL=6 ST=2 TYP=3
	410	SGMR	8	S	1948.8	1949.5	1.0	33.0			QL=6 ST=2 TYP=3
	610	SGMR	49	GB	1948.8	1949.5	1.0	590.0			QL=6 ST=2 TYP=6
	610	PALE	47	GB	1948.8	1949.5	1.0	470.0			QL=6 ST=2 TYP=5
	9400	HUAN	1	S	2016.4	2017.5	2.4	3.6	1.3		0
	610	SGMR	49	GB	2025.0	2026.0	2.3	1399.0			QL=6 ST=2 TYP=6
	410	SGMR	47	GB	2025.1	2025.3	2.2	169.0			QL=6 ST=2 TYP=5
	610	PALE	49	GB	2025.1	2026.0	2.2	1199.0			QL=6 ST=2 TYP=6
	410	PALE	47	GB	2025.1	2026.0	2.0	119.0			QL=6 ST=2 TYP=5
	9400	HUAN	1	S	2120.7	2121.5	2.2	11.6	6.6		0
	9400	HUAN	29	PBI	2122.9	2122.9	12.7	5.8	3.6		0

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
18	1000	TYKW	5	S	2232.2	2232.3	.5	10.0	2.0		
	9400	TYKW	5	S	2235.7	2236.1	1.0	5.0	1.5		
	3750	TYKW	5	S	2235.8	2236.2	1.0	4.0	1.5		
	1000	TYKW	45	C	2240.5	2241.5	4.0	40.0	2.0		
	500	HIRA	42	SER	2240.5	2243.6	12.0	500.0			SL
	610	LEAR	8	S	2240.6	2240.8	.2	23.0			QL=6 ST=2 TYP=3
	2000	TYKW	5	S	2240.7	2240.8	1.5	8.0	1.0		
	3750	TYKW	45	C	2240.7	2241.0	2.5	5.0	2.0		
	245	LEAR	47	GB	2240.8	2241.1	.5	73.0			QL=6 ST=2 TYP=5
	410	LEAR	8	S	2241.6	2242.3	.9	23.0			QL=6 ST=2 TYP=3
	610	LEAR	47	GB	2243.3	2243.8	2.0	200.0			QL=6 ST=2 TYP=5
	610	PALE	47	GB	2243.3	2243.8	1.0	300.0			QL=6 ST=2 TYP=5
	410	LEAR	8	S	2243.8	2243.8	.3	39.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	2244.5	2245.8	1.5	22.0			QL=6 ST=2 TYP=3
	610	LEAR	47	GB	2244.8	2245.0	1.3	56.0			QL=6 ST=2 TYP=5
	610	LEAR	8	S	2247.5	2248.0	2.0	20.0			QL=6 ST=2 TYP=3
	410	LEAR	47	GB	2247.5	2250.6	5.3	58.0			QL=6 ST=2 TYP=5
	245	LEAR	4	S/F	2247.5	2252.0	6.0	11.0			QL=6 ST=2 TYP=3
	9400	TYKW	5	S	2248.4	2249.0	3.0	7.0	3.0		
	15400	PALE	8	S	2248.6	2248.8	.5	24.0			QL=6 ST=2 TYP=3
	17000	NOBE	1	S	2248.6	2248.9	1.0	19.0			L
	410	PALE	4	S/F	2249.3	2250.3	5.5	40.0			QL=6 ST=2 TYP=3
	245	PALE	8	S	2254.1	2254.3	.4	18.0			QL=6 ST=2 TYP=3
	1000	TYKW	45	C	2308.6	2308.7	1.0	34.0	3.0		
	1000	TYKW	45	C	2314.3	2314.6	1.5	4.0	1.0		
	245	PALE	47	GB	2318.1	2318.6	3.7	84.0			QL=6 ST=2 TYP=5
	410	PALE	47	GB	2318.5	2318.6	2.8	50.0			QL=6 ST=2 TYP=5
	1000	TYKW	45	C	2327.5	2329.5	5.0	18.0	4.0		
	500	HIRA	7	C	2327.7	2328.4	2.0	90.0	15.0		SL
	410	LEAR	8	S	2328.0	2329.1	1.0	9.0			QL=6 ST=2 TYP=3
	245	PALE	47	GB	2328.1	2330.1	3.2	330.0			QL=6 ST=2 TYP=5
	610	LEAR	8	S	2328.5	2328.6	.3	10.0			QL=6 ST=2 TYP=3
	3750	TYKW	45	C	2328.7	2329.2	3.3	28.0	4.0		
	2000	TYKW	45	C	2328.7	2329.6	3.3	50.0	9.0		
	2695	LEAR	47	GB	2328.8	2329.5	1.3	60.0			QL=6 ST=2 TYP=5
	410	PALE	47	GB	2328.8	2330.1	2.2	139.0			QL=6 ST=2 TYP=5
	1415	LEAR	47	GB	2329.1	2329.3	1.0	79.0			QL=6 ST=2 TYP=5
	4995	LEAR	8	S	2329.1	2329.3	1.0	6.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	2329.1	2329.6	1.0	4.0			QL=6 ST=2 TYP=3
	15400	LEAR	8	S	2329.1	2330.0	1.5	10.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	2329.3	2329.3	.2	7.0			QL=6 ST=2 TYP=3
	1415	PALE	47	GB	2329.3	2329.5	.8	80.0			QL=6 ST=2 TYP=5
	2000	TYKW	29	PBI	2332.0		10.0	3.0	1.5		
	3750	TYKW	29	PBI	2332.0		10.0	2.0	1.0		
	3750	TYKW	5	S	2350.4	2350.8	1.5	1.5	.5		
	9400	TYKW	5	S	2350.4	2350.8	3.5	4.0	1.5		
	2000	TYKW	21	GRF	2355.0	0052.0	200.0	4.0	2.0		
	3750	TYKW	21	GRF	2355.0	0105.0	200.0	10.0	5.0		
	9400	TYKW	21	GRF	2356.0	0003.0	90.0	8.0	3.0		
	245	LEAR	8	S	2356.3	2356.6	.5	10.0			QL=6 ST=2 TYP=3
	3750	TYKW	5	S	2357.0	0004.5	15.0	3.0	1.0		
	410	LEAR	8	S	2357.1	2357.3	.4	9.0			QL=6 ST=2 TYP=3
19	410	PALE	43	NS	0100.0	0216.3	135.0D	119.0			QL=6 ST=2 TYP=1
	245	LEAR	43	NS	0448.3	0548.1	358.7D	63.0			QL=6 ST=2 TYP=1
	200	GORK	44	NS	0633.0E		300.0D		5.0		
	260	ONDR	44	NS	0820.0E		160.0D	88.0			
	100	GORK	43	NS	0832.2		145.0		5.0		
	245	PALE	43	NS	1722.0	0304.5	593.0D	580.0			QL=6 ST=2 TYP=1
	245	PALE	47	GB	0005.8	0006.3	1.8	119.0			QL=6 ST=2 TYP=5
	410	PALE	8	S	0006.3	0006.6	.7	28.0			QL=6 ST=2 TYP=3
	9400	TYKW	5	S	0020.0	0021.0	3.0	5.0	1.5		
	610	LEAR	8	S	0025.5	0025.6	.3	42.0			QL=6 ST=2 TYP=3
	9400	TYKW	5	S	0032.0	0034.6	8.0	9.0	3.0		
	3750	TYKW	5	S	0033.0	0035.0	6.0	2.0	1.0		
	9400	TYKW	30	PBI	0040.0		40.0	3.0	1.5		
	3750	TYKW	5	S	0043.0	0043.8	8.0	3.0	1.0		
	9400	TYKW	20	GRF	0045.0	0056.0	35.0	9.0	4.0		
	3750	TYKW	45	C	0053.0	0055.5	7.0	5.0	1.5		
	2000	TYKW	45	C	0054.0	0055.4	2.5	3.0	1.0		
	200	HIRA	46	C	0056.6	0057.2	1.2	245.0	53.0		O

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
19	208	VORO	4	S/F	0057.0	0058.0	2.0	190.0			
	245	LEAR	47	GB	0057.3	0057.5	.5	57.0			QL=6 ST=2 TYP=5
	610	LEAR	47	GB	0059.1	0059.3	.5	239.0			QL=6 ST=2 TYP=5
	1000	TYKW	5	S	0100.0	0100.4	1.0	2.0	.5		
	1000	TYKW	47	GB	0132.8	0136.6	11.0	858.0	75.0		
	3750	TYKW	45	C	0133.0	0135.2	17.0	121.0	23.0		
	2000	TYKW	45	C	0133.0	0136.4	9.0	194.0	32.0		
	9400	TYKW	45	C	0133.0	0139.0	20.0	84.0	24.0		
	2840	PEKG	46	C	0133.0	0135.2	14.0	159.0	17.5		
	9395	PEKG	46	C	0133.0	0138.6	14.0	62.2	17.0		
	245	PALE	47	GB	0133.1	0136.3	12.0	340.0			QL=6 ST=2 TYP=5
	8800	LEAR	47	GB	0133.3	0136.1	33.2	81.0			QL=6 ST=2 TYP=5
	15400	LEAR	47	GB	0133.3	0136.3	33.2	50.0			QL=6 ST=2 TYP=5
	2695	LEAR	47	GB	0133.6	0135.1	6.0	119.0			QL=6 ST=2 TYP=5
	500	HIRA	48	C	0133.6	0136.9	10.0	9000.0	1500.0		SL
	200	HIRA	41	F	0133.7	0135.2	9.4	290.0			WL
	100	HIRA	41	F	0133.7	0137.3	7.0	5200.0			WL
	245	LEAR	47	GB	0133.8	0134.8	8.8	169.0			QL=6 ST=2 TYP=5
	4995	LEAR	47	GB	0133.8	0135.1	16.8	98.0			QL=6 ST=2 TYP=5
	610	PALE	49	GB	0133.8	0135.3	9.5	4800.0			QL=6 ST=2 TYP=6
	1415	LEAR	47	GB	0133.8	0136.5	6.0	480.0			QL=6 ST=2 TYP=5
	1415	PALE	49	GB	0133.8	0136.5	6.0	560.0			QL=6 ST=2 TYP=6
	410	LEAR	49	GB	0133.8	0136.6	23.8	700.0			QL=6 ST=2 TYP=6
	208	VORO	40	F	0134.0	0138.0	10.0	250.0			
	17000	NOBE	7	C	0134.3	0138.8	27.0	54.0			R-L
	1415	MANI	4	S/F	0134.4	0137.5	7.6	450.5	150.2		
	4995	PALE	47	GB	0134.8	0135.1	5.3	84.0			QL=6 ST=2 TYP=5
	8800	PALE	47	GB	0134.8	0135.8	6.3	57.0			QL=6 ST=2 TYP=5
	15400	PALE	47	GB	0134.8	0136.1	10.3	46.0			QL=6 ST=2 TYP=5
	410	PALE	49	GB	0134.8	0137.1	8.7	520.0			QL=6 ST=2 TYP=6
	610	LEAR	49	GB	0135.0	0135.1	7.0	3899.0			QL=6 ST=2 TYP=6
	35000	NAGO	20	GRF	0135.0	0139.0	15.0	10.0			
	4995	MANI	4	S/F	0136.1	0137.2	4.9	213.0	71.0		
	2000	TYKW	29	PBI	0142.0		35.0	2.0	1.0		
	2840	PEKG	29	PBI	0147.0		12.0	4.5	2.9		
	9395	PEKG	29	PBI	0147.0		34.0	9.9	6.0		
	3750	TYKW	30	PBI	0150.0		80.0	7.0	3.0		
	9400	TYKW	29	PBI	0153.0		30.0	11.0	5.0		
	9395	PEKG	20	GRF	0221.0	0228.5	32.0	5.5	2.1		
	2840	PEKG	46	C	0224.0	0228.5	10.0	62.3	8.3		
	3750	TYKW	45	C	0225.0	0228.4	9.0	39.0	6.0		
	2000	TYKW	45	C	0225.0	0229.0	9.0	25.0	6.0		
	410	LEAR	47	GB	0225.8	0231.3	6.5	230.0			QL=6 ST=2 TYP=5
	610	LEAR	4	S/F	0225.8	0232.0	6.7	25.0			QL=6 ST=2 TYP=3
	245	LEAR	47	GB	0225.8	0232.0	6.3	150.0			QL=6 ST=2 TYP=5
	1000	TYKW	45	C	0226.0	0230.7	8.0	9.0	1.0		
	4995	LEAR	4	S/F	0226.0	0228.3	6.3	13.0			QL=6 ST=2 TYP=3
	2695	LEAR	4	S/F	0226.0	0229.3	6.8	42.0			QL=6 ST=2 TYP=3
	1415	LEAR	4	S/F	0226.0	0230.1	6.0	13.0			QL=6 ST=2 TYP=3
	9400	TYKW	21	GRF	0227.0	0236.0	35.0	6.0	3.0		
	8800	LEAR	8	S	0227.8	0228.3	1.2	10.0			QL=6 ST=2 TYP=3
	9400	TYKW	5	S	0228.0	0228.4	1.0	4.0	1.0		
	3750	TYKW	29	PBI	0234.0		30.0	5.0	2.5		
	2000	TYKW	29	PBI	0234.0		30.0	4.0	2.0		
	2840	PEKG	29	PBI	0234.0		18.0	8.0	5.2		
	9400	TYKW	5	S	0316.0	0317.0	5.0	3.0	1.0		
	9400	TYKW	21	GRF	0326.0	0329.0	70.0	5.0	2.0		
	2000	TYKW	21	GRF	0330.0	0349.0	120.0	3.0	1.5		
	3750	TYKW	21	GRF	0330.0	0350.0	130.0	4.0	2.0		
	9400	TYKW	5	S	0331.0	0334.0	10.0	3.0	1.0		
	9400	TYKW	5	S	0351.0	0351.4	1.0	8.0	1.5		
	1000	TYKW	8	S	0406.9	0407.0	.3	2.0	.5		
	1000	TYKW	45	C	0408.0	0408.5	1.0	21.0	2.0		
	410	LEAR	47	GB	0415.1	0415.3	1.0	50.0			QL=6 ST=2 TYP=5
	1000	TYKW	45	C	0416.4	0416.9	1.0	8.0	1.0		
	610	LEAR	8	S	0416.6	0416.8	.5	10.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0416.8	0416.8	.2	5.0			QL=6 ST=2 TYP=3
	410	LEAR	4	S/F	0418.1	0419.6	4.2	20.0			QL=6 ST=2 TYP=3
	500	HIRA	1	S	0420.7	0422.6	3.3	5.0	3.0		SL
	8800	LEAR	8	S	0422.3	0422.6	1.0	11.0			QL=6 ST=2 TYP=3
	9400	TYKW	5	S	0422.4	0422.7	1.0	8.0	3.0		

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
19	1000	TYKW	45	C	0427.7	0428.3	1.0	31.0	3.0		
	2000	TYKW	5	S	0436.0	0436.8	2.0	1.5	.5		
	1000	TYKW	45	C	0439.5	0440.6	1.0	4.0	.7		
	610	LEAR	8	S	0439.8	0440.1	.8	17.0			QL=6 ST=2 TYP=3
	3750	TYKW	5	S	0448.0	0448.7	3.0	4.0	1.0		
	2840	PEKG	45	C	0448.0	0454.5	12.0	5.4	1.1		
	1000	TYKW	45	C	0448.3	0449.8	3.0	9.0	1.0		
	2000	TYKW	5	S	0448.4	0448.7	1.5	5.0	1.5		
	3750	TYKW	5	S	0452.0	0454.4	4.0	6.0	2.0		
	2000	TYKW	5	S	0452.0	0454.5	3.0	4.0	1.5		
	500	HIRA	45	C	0452.0	0454.3	3.0	1200.0	50.0		SL
	610	LEAR	49	GB	0452.3	0454.3	3.5	3800.0			QL=6 ST=2 TYP=6
	410	LEAR	47	GB	0452.6	0453.8	8.4	300.0			QL=6 ST=2 TYP=5
	200	HIRA	46	C	0452.7	0453.4	1.6	165.0	55.0		WL
	1000	TYKW	45	C	0452.7	0454.2	2.0	21.0	3.0		
	245	LEAR	47	GB	0453.1	0454.3	1.7	239.0			QL=6 ST=2 TYP=5
	9400	TYKW	5	S	0454.0	0454.6	6.0	4.0	1.5		
	500	HIRA	45	C	0458.2	0500.6	5.5	38.0	20.0		ML
	1000	TYKW	8	S	0502.5	0502.6	.2	13.0	3.0		
	9400	TYKW	20	GRF	0524.0	0529.0	35.0	5.0	2.0		
	1000	TYKW	8	S	0526.3	0526.4	.3	185.0	20.0		
	610	LEAR	47	GB	0531.6	0531.8	.2	83.0			QL=6 ST=2 TYP=5
	2840	PEKG	45	C	0553.0	0613.8	39.0	19.7	3.6		
	3750	TYKW	20	GRF	0554.0	0613.0	55.0	7.0	3.0		
	2000	TYKW	45	C	0554.0	0616.2	26.0	86.0	5.0		
	410	LEAR	8	S	0555.0	0556.0	1.3	20.0			QL=6 ST=2 TYP=3
	610	LEAR	8	S	0555.8	0556.1	.5	21.0			QL=6 ST=2 TYP=3
	1000	TYKW	45	C	0556.0	0556.1	.6	11.0	2.0		
	410	LEAR	47	GB	0602.0	0602.3	2.1	72.0			QL=6 ST=2 TYP=5
	1415	LEAR	4	S/F	0602.0	0602.3	2.1	27.0			QL=6 ST=2 TYP=3
	6100	KISV	2	S/F	0612.0	0613.6	3.0	5.0			
	1415	LEAR	4	S/F	0612.8	0613.0	3.3	17.0			QL=6 ST=2 TYP=3
	2695	LEAR	4	S/F	0613.5	0613.6	2.6	18.0			QL=6 ST=2 TYP=3
	2000	TYKW	29	PBI	0620.0		15.0U	3.0	1.5U		
	6100	KISV	1	S	0621.7	0622.2	1.0	7.0			
	245	LEAR	47	GB	0624.0	0624.1	.3	400.0			QL=6 ST=2 TYP=5
	100	HIRA	42	SER	0624.0	0652.0	32.0	7000.0			O
	500	HIRA	42	SER	0635.2	0640.7	20.0	250.0			SL
	245	LEAR	47	GB	0635.3	0635.5	.5	160.0			QL=6 ST=2 TYP=5
	610	LEAR	47	GB	0635.3	0635.5	.3	57.0			QL=6 ST=2 TYP=5
	410	LEAR	47	GB	0635.3	0635.5	.5	87.0			QL=6 ST=2 TYP=5
	410	LEAR	47	GB	0638.3	0638.5	.7	82.0			QL=6 ST=2 TYP=5
	410	LEAR	47	GB	0640.8	0641.0	.5	55.0			QL=6 ST=2 TYP=5
	610	LEAR	47	GB	0640.8	0641.0	.5	58.0			QL=6 ST=2 TYP=5
	200	GORK	41	F	0645.5	0645.9	7.4	20.0D			
	200	GORK			0645.5	0652.5		80.0			
	245	LEAR	47	GB	0645.6	0645.8	.5	370.0			QL=6 ST=2 TYP=5
	650	GORK	4	S/F	0645.7	0646.2	1.6	51.0			
	950	GORK	4	S/F	0645.8	0647.2	2.2	15.0			
	610	LEAR	47	GB	0646.0	0646.1	.5	77.0			QL=6 ST=2 TYP=5
	410	LEAR	47	GB	0647.1	0647.1	1.0	50.0			QL=6 ST=2 TYP=5
	100	GORK	41	F	0647.1	0647.2	5.8	1890.0D			
	100	GORK			0647.1	0652.2		1890.0D			
	650	GORK	46	C	0650.5	0651.7	7.2	155.0			
	650	GORK			0650.5	0653.7		196.0			
	650	GORK	4	S/F	0650.7	0652.3	6.0	17.0			
	610	LEAR	47	GB	0651.1	0653.6	4.5	300.0			QL=6 ST=2 TYP=5
	410	LEAR	49	GB	0652.3	0654.3	3.0	730.0			QL=6 ST=2 TYP=6
	17000	NOBE	8	S	0654.9	0655.0	.5	38.0			O
	410	LEAR	47	GB	0719.1	0719.5	1.0	370.0			QL=6 ST=2 TYP=5
	610	LEAR	8	S	0719.3	0719.3	.2	24.0			QL=6 ST=2 TYP=3
	9100	GORK	20	GRF	0737.8	0738.3	8.5	10.0			
	6100	KISV	2	S/F	0737.9	0738.2	2.0	3.0			
	410	LEAR	47	GB	0750.8	0751.3	1.3	480.0			QL=6 ST=2 TYP=5
	610	LEAR	8	S	0751.1	0751.1	.2	26.0			QL=6 ST=2 TYP=3
	650	GORK	4	S/F	0804.1	0805.2	2.2	47.0			
	610	LEAR	47	GB	0804.6	0805.1	1.2	60.0			QL=6 ST=2 TYP=5
	950	GORK	4	S/F	0804.9	0805.3	1.1	12.0			
	6100	KISV	45	C	0821.5	0822.2	3.5	5.0			
	6100	KISV			0821.5	0824.5		5.0			
	100	GORK	41	F	0850.2	0853.1	27.8	160.0D			

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19	100	GORK			0850.2	0854.3		180.00			
	100	GORK			0850.2	0855.3		2300.00			
	100	GORK			0850.2	0857.5		2300.00			
	100	GORK			0850.2	0905.5		2300.00			
	100	GORK			0850.2	0917.4		185.00			
	100	GORK			0852.0	0902.5		2300.00			
	200	GORK	41	F	0852.9	0857.5	13.0	100.0			
	200	GORK			0852.9	0905.5		100.00			
	113	POTS	42	SER	0853.0	0857.4	15.0	8400.0	150.0		III
	204	IZMI	42	SER	0853.0	0908.0	510.0	500.0			
	245	LEAR	47	GB	0854.1	0854.3	.7	100.0			QL=6 ST=2 TYP=5
	234	POTS	42	SER	0855.3	0905.5	13.0	26.0	1.0		III
	950	GORK	23	GRF	0859.5	0902.3	14.1	2.0			
	1470	POTS	42	SER	0901.8	0905.7	7.7	21.0			
	650	GORK	40	F	0901.8	0906.6	11.9	370.0			
	2650	DWIN	2	S/F	0902.0	0905.0	4.0	20.0	10.0		
	2950	GORK	4	S/F	0902.3	0902.8	4.3	15.6			
	950	GORK	41	F	0902.3	0902.9	4.2	11.0			
	950	GORK			0902.3	0904.5		23.0			
	950	GORK			0902.3	0905.5		152.00			
	1415	LEAR	4	S/F	0902.3	0913.0	12.0	38.0			QL=6 ST=2 TYP=3
	3000	POTS	42	SER	0902.4	0902.8	4.6	20.0			
	2695	LEAR	4	S/F	0902.5	0902.6	3.1	17.0			QL=6 ST=2 TYP=3
	410	LEAR	47	GB	0902.6	0902.6	11.2	39.0			QL=6 ST=2 TYP=5
	610	LEAR	49	GB	0903.0	0904.6	11.3	119.0			QL=6 ST=2 TYP=6
	536	ONDR	46	C	0904.0	0913.0	11.0	292.0			
	808	ONDR	45	C	0905.0	0905.5	1.5	171.0			
	6100	KISV	1	S	0905.2	0905.8	1.0	9.0			
	9100	GORK	2	S/F	0905.3	0905.5	4.3	24.0			
	245	LEAR	47	GB	0905.3	0905.5	.3	139.0			QL=6 ST=2 TYP=5
	8800	LEAR	8	S	0905.3	0905.5	.5	21.0			QL=6 ST=3 TYP=3
	1470	POTS	40	F	0910.6	0912.5	3.4	21.0			
	204	IZMI	41	F	1030.0	1031.5	8.0	750.0			
	6100	KISV	45	C	1128.4	1128.6	3.5	4.0			
	6100	KISV			1128.4	1131.0		5.0			
	9400	HUAN	20	GRF	1228.2	1232.3	15.5	5.6	3.7		0
	4995	SGMR	8	S	1347.8	1348.6	1.5	27.0			QL=6 ST=2 TYP=3
	9400	HUAN	2	S/F	1347.9	1348.7	1.9	9.9	8.5		0
	8800	SGMR	8	S	1348.3	1348.5	1.0	26.0			QL=6 ST=2 TYP=3
	9400	HUAN	29	PBI	1349.8	1349.8	9.1	4.2	3.0		0
	2800	OTTA	20	GRF	1425.0	1445.0	65.0	4.8	2.4		
	9400	HUAN	2	S/F	1432.5	1433.2	2.1	14.1	6.2		L
	9400	HUAN	20	GRF	1500.1	1504.0	9.8	4.2	1.4		0
	2800	OTTA	240	R	1535.0	1545.0	10.0	4.0	2.0		
	9400	HUAN	23	GRF	1541.8	1633.8	231.3	93.2	29.7		L
	9400	HUAN	1	S	1549.4	1550.2	1.3	8.5	5.4		L
	2800	OTTA	21	GRF	1552.0	1736.0	365.0	39.0			
	2800	OTTA	4	S/F	1609.0	1634.0	47.0	161.0	52.6		
	9400	HUAN	1	S	1614.9	1616.5	3.1	14.1	11.3		0
	1415	SGMR	20	GRF	1621.1	1622.5	14.2	100.0			QL=6 ST=3 TYP=2
	2695	SGMR	20	GRF	1621.1	1624.5	14.2	60.0			QL=6 ST=3 TYP=2
	4995	SGMR	20	GRF	1621.8	1624.6	13.5	47.0			QL=6 ST=3 TYP=2
	8800	SGMR	20	GRF	1621.8	1624.6	13.5	51.0			QL=6 ST=3 TYP=2
	15400	SGMR	20	GRF	1624.8	1626.0	10.5	36.0			QL=6 ST=2 TYP=2
	610	SGMR	20	GRF	1634.8	1635.0	.5	69.0			QL=6 ST=2 TYP=2
	2695	SGMR	20	GRF	1635.3	1635.5	9.0	130.0			QL=6 ST=2 TYP=2
	4995	SGMR	20	GRF	1635.3	1635.5	10.3	100.0			QL=6 ST=2 TYP=2
	8800	SGMR	20	GRF	1635.3	1635.5	10.3	91.0			QL=6 ST=2 TYP=2
	1415	SGMR	20	GRF	1635.3	1635.5	8.8	90.0			QL=6 ST=2 TYP=2
	15400	SGMR	20	GRF	1635.3	1636.3	10.3	41.0			QL=6 ST=2 TYP=2
	2800	OTTA	1	S	1751.9	1752.0	1.0	2.0	1.0		
	9400	HUAN	4	S/F	2017.3	2019.1	3.7	52.2	21.3		L
	2800	OTTA	3	S	2019.0	2019.4	3.0	11.2	3.8		
	1000	TYKW	45	C	2248.0	2250.6	5.0	75.0	18.0		
	2000	TYKW	45	C	2248.0	2251.4	5.0	25.0	6.0		
	610	LEAR	47	GB	2248.5	2250.6	4.3	81.0			QL=6 ST=2 TYP=5
	410	LEAR	47	GB	2248.6	2250.6	4.4	52.0			QL=6 ST=2 TYP=5
	1415	LEAR	4	S/F	2248.6	2250.6	3.7	44.0			QL=6 ST=2 TYP=3
	500	HIRA	45	C	2249.4	2250.2	4.0	100.0	30.0		SL
	500	HIRA	45	C	2254.7	2256.3	4.0	400.0	200.0		SL
	610	LEAR	47	GB	2254.8	2256.6	3.7	330.0			QL=6 ST=2 TYP=5

SOLAR RADIO EMISSION
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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
19	410	LEAR	47	GB	2254.8	2256.8	3.8	130.0			QL=6 ST=2 TYP=5
	1000	TYKW	45	C	2255.0	2256.9	4.0	9.0	2.5		
	2000	TYKW	5	S	2256.0	2256.8	2.0	3.0	1.0		
	9400	TYKW	45	C	2301.5	2302.9	10.0	13.0	3.0		
	610	LEAR	20	GRF	2355.6	0039.0	92.4D	17.0			QL=5 ST=2 TYP=2
	8800	LEAR	20	GRF	2355.8	0033.5	92.2D	20.0			QL=5 ST=2 TYP=2
	15400	LEAR	20	GRF	2356.0	0057.0	92.0D	35.0			QL=5 ST=2 TYP=2
	4995	LEAR	20	GRF	2357.1	0055.0	90.9D	17.0			QL=5 ST=2 TYP=2
	245	LEAR	20	GRF	2358.8	0037.0	89.2D	10.0			QL=5 ST=2 TYP=2
	410	LEAR	20	GRF	2359.6	0048.0	88.4D	8.0			QL=5 ST=2 TYP=2
20	410	LEAR	43	NS	0909.5	0909.6	3.3	21.0			QL=6 ST=2 TYP=1
	610	LEAR	43	NS	0909.5	0910.5	3.6	21.0			QL=6 ST=2 TYP=1
	9395	PEKG	45	C	0010.0	0022.3	23.0	26.3	8.7		
	4995	LEAR	4	S/F	0010.5	0019.6	14.8	21.0			QL=6 ST=2 TYP=3
	8800	LEAR	47	GB	0010.6	0019.5	20.7	67.0			QL=6 ST=2 TYP=5
	15400	LEAR	47	GB	0011.1	0019.5	22.0	68.0			QL=6 ST=2 TYP=5
	9400	TYKW	45	C	0011.5	0019.6	18.5	76.0	25.0		
	17000	NOBE	7	C	0012.9	0019.5	15.0	54.0			L
	3750	TYKW	45	C	0013.0	0019.7	22.0	17.0	6.0		
	245	LEAR	8	S	0016.1	0016.1	.2	13.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0016.1	0016.1	.2	3.0			QL=6 ST=2 TYP=3
	2695	LEAR	4	S/F	0017.1	0019.8	2.9	11.0			QL=6 ST=2 TYP=3
	2840	PEKG	45	C	0018.0	0022.3	14.0	16.6	8.8		
	2000	TYKW	45	C	0018.8	0019.7	2.2	9.0	3.0		
	1415	LEAR	4	S/F	0019.1	0021.8	3.0	16.0			QL=6 ST=3 TYP=3
	2000	TYKW	30	PBI	0021.0		25.0	1.5	.7		
	2000	TYKW	45	C	0021.5	0022.2	1.0	34.0	6.0		
	9400	TYKW	29	PBI	0030.0		25.0	16.0	6.0		
	3750	TYKW	30	PBI	0035.0		70.0	3.0	1.5		
	1415	MANI	47	GB	0040.5	0041.0	1.1	119.0			QL=6 ST=2 TYP=5
	17000	NOBE	1	S	0044.6	0045.1	1.5	12.0			O
	3750	TYKW	5	S	0059.0	0104.7	25.0	6.0	2.5		
	9400	TYKW	5	S	0102.0	0104.8	9.0	4.0	1.5		
	500	HIRA	42	SER	0124.0	0124.2	14.0	80.0			O
	410	LEAR	4	S/F	0124.3	0125.1	2.2	37.0			QL=6 ST=2 TYP=3
	2695	LEAR	4	S/F	0124.3	0125.3	2.3	8.0			QL=6 ST=2 TYP=3
	3750	TYKW	5	S	0124.5	0125.5	3.0	7.0	3.0		
	2000	TYKW	45	C	0124.5	0126.3	3.5	13.0	4.0		
	1000	TYKW	45	C	0124.5	0126.5	3.5	20.0	7.0		
	200	HIRA	42	SER	0124.6	0128.6	4.7	112.0			O
	245	LEAR	8	S	0124.8	0125.1	.5	5.0			QL=6 ST=2 TYP=3
	100	HIRA	46	C	0125.0	0126.0	2.7	280.0	75.0		O
	1415	LEAR	8	S	0125.1	0126.3	1.4	21.0			QL=6 ST=2 TYP=3
	610	LEAR	47	GB	0126.1	0126.3	.5	200.0			QL=6 ST=2 TYP=5
	245	LEAR	4	S/F	0127.8	0128.5	6.3	46.0			QL=6 ST=2 TYP=3
	208	VORO	3	S	0128.0	0128.0	1.0	41.0			
	1000	TYKW	5	S	0128.6	0129.0	.7	6.0	1.5		
	3750	TYKW	5	S	0129.0	0132.0	14.0	2.5	1.5		
	100	HIRA	46	C	0129.0	0130.6	7.1	1100.0	290.0		O
	2000	TYKW	5	S	0129.5	0131.5	12.0	5.0	2.0		
	1000	TYKW	5	S	0129.5	0131.5	11.0	5.0	2.0		
	9400	TYKW	5	S	0136.7	0137.3	5.0	6.0	2.0		
	1000	TYKW	5	S	0141.3	0141.5	.7	1.5	.5		
	3750	TYKW	21	GRF	0155.0	0202.0	35.0	2.0	1.0		
	9400	TYKW	20	GRF	0156.0	0211.0	45.0	6.0	2.0		
	1000	TYKW	45	C	0207.6	0208.7	2.0	58.0	10.0		
	3750	TYKW	5	S	0208.0	0211.2	8.0	3.0	1.5		
	3750	TYKW	5	S	0216.5	0217.2	2.0	1.5	.5		
	245	LEAR	8	S	0316.5	0316.6	.3	30.0			QL=6 ST=2 TYP=3
	3750	TYKW	21	GRF	0325.0	0330.0	40.0	2.0	1.0		
	1000	TYKW	45	C	0339.0	0339.2	1.0	3.0	1.0		
	200	HIRA	45	C	0339.5	0340.6	2.0	12000.0	3400.0		WL
	245	LEAR	49	GB	0339.8	0340.8	1.8	1399.0			QL=6 ST=2 TYP=6
	3750	TYKW	5	S	0340.0	0340.7	3.0	28.0	4.0		
	2000	TYKW	5	S	0340.0	0340.7	4.0	13.0	2.5		
	2840	PEKG	3	S	0340.0	0340.8	2.0	22.9	3.2		
	100	HIRA	45	C	0340.1		2.3	10000.0D	2450.0D		
	410	LEAR	47	GB	0340.1	0340.6	1.5	139.0			QL=6 ST=2 TYP=5
	1415	LEAR	8	S	0340.3	0340.6	.5	11.0			QL=6 ST=2 TYP=3
	2695	LEAR	8	S	0340.3	0340.6	.7	20.0			QL=6 ST=2 TYP=3

SOLAR RADIO EMISSION
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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
20	4995	LEAR	8	S	0340.3	0340.6	.7	22.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	0340.3	0340.6	.7	10.0			QL=6 ST=2 TYP=3
	610	LEAR	8	S	0340.3	0340.8	1.5	11.0			QL=6 ST=2 TYP=3
	500	HIRA	7	C	0340.4	0340.4	2.4	14.0	4.0		SL
	9400	TYKW	5	S	0340.5	0340.7	1.5	6.0	2.0		
	1000	TYKW	45	C	0340.5	0340.8	3.0	8.0	2.5		
	208	VORO	4	S/F	0341.0	0342.0	1.0	250.0D			
	100	HIRA	46	C	0416.3	0416.5	1.3	850.0	230.0		0
	245	LEAR	8	S	0416.5	0416.6	.3	30.0			QL=6 ST=3 TYP=3
	9400	TYKW	5	S	0419.0	0419.3	1.0	5.0	1.5		
	3750	TYKW	20	GRF	0450.0	0511.0	80.0	3.0	1.5		
	9400	TYKW	5	S	0508.0	0510.8	12.0	5.0	1.5		
	650	GORK			0543.0	0859.5		66.0			
	6100	KISV	4	S/F	0615.0	0619.3	5.0	15.0			
	9400	TYKW	5	S	0616.0	0619.1	4.0	28.0	14.0		
	9395	PEKG	3	S	0616.0	0619.2	15.0	24.6	8.3		
	8800	LEAR	4	S/F	0618.3	0619.0	3.8	30.0			QL=6 ST=2 TYP=3
	15400	LEAR	8	S	0618.5	0618.8	1.1	10.0			QL=6 ST=2 TYP=3
	9400	TYKW	30	PBI	0620.0		40.0	12.0	5.0		
	6100	KISV	2	S/F	0642.3	0642.7	1.0	12.0			
	9395	PEKG	3	S	0643.0	0644.7	7.0	21.7	2.5		
	9400	TYKW	5	S	0644.0	0644.7	2.0	22.0	7.0		
	15400	LEAR	8	S	0644.3	0644.6	.7	34.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	0644.3	0644.6	.5	21.0			QL=6 ST=2 TYP=3
	17000	NOBE	1	S	0644.4	0644.7	3.0	35.0			L
	9400	TYKW	29	PBI	0646.0		15.0	3.0	1.5U		INTERFERENCE
	9100	GORK	2	S/F	0744.2	0744.6	1.7	23.0			
	15000	KISV	45	C	0812.0	0813.0	3.0	10.0			
	15000	KISV			0812.0	0814.0		15.0			
	6100	KISV	45	C	0812.0	0814.0	6.0	12.0			
	6100	KISV			0812.0	0817.7		9.0			
	9100	GORK	22	GRF	0812.7	0813.9	14.7	23.0			
	15400	LEAR	4	S/F	0813.6	0813.8	2.2	23.0			QL=6 ST=2 TYP=3
	4995	LEAR	4	S/F	0813.6	0814.0	3.2	13.0			QL=6 ST=2 TYP=3
	3100	CRIM	26	FAL	0822.0	0948.0		6.0			
	113	POTS	42	SER	0848.0	0900.6	50.0	1400.0	15.0		III
	200	GORK	41	F	0849.0	0849.3	15.0	180.0			
	100	GORK			0849.0	0854.6		235.0D			
	100	GORK			0849.0	0900.5		3180.0			
	100	GORK			0849.0	0904.1		2200.0			
	200	GORK	4	S/F	0852.4	0853.8	2.6	25.0D			
	610	LEAR	8	S	0854.3	0854.6	.7	38.0			QL=6 ST=2 TYP=3
	650	GORK	41	F	0854.3	0854.8	15.9D	23.0			
	650	GORK			0854.3	0901.5		72.0			
	650	GORK			0854.3	0906.9		56.0			
	930	BORD	46	C	0857.0	0900.8	9.0	70.0	9.0		
	950	GORK	4	S/F	0858.3	0900.9	8.0	46.0			
	410	LEAR	8	S	0858.5	0858.6	.3	22.0			QL=6 ST=2 TYP=3
	610	LEAR	47	GB	0858.5	0859.5	3.3	100.0			QL=6 ST=2 TYP=5
	245	LEAR	47	GB	0859.1	0859.5	1.7	93.0			QL=6 ST=2 TYP=5
	1470	POTS	4	S/F	0859.3	0900.4	8.7	63.0			
	3000	POTS	4	S/F	0859.3	0900.5	11.0	86.0			
	2950	GORK	4	S/F	0859.4	0900.2	4.8	90.0			
	3100	BERN	4	S/F	0859.4	0900.3	18.0	104.0			
	5200	BERN	4	S/F	0859.4	0900.3	18.0	143.0			
	11800	BERN	3	S	0859.4	0901.4	18.0	32.0			
	204	IZMI	5	S	0859.5	0859.6	1.5	180.0	90.0		
	1415	LEAR	47	GB	0859.8	0900.0	2.3	96.0			QL=6 ST=2 TYP=5
	2695	LEAR	47	GB	0859.8	0900.1	4.7	88.0			QL=6 ST=2 TYP=5
	4995	LEAR	47	GB	0900.0	0900.1	4.0	51.0			QL=6 ST=2 TYP=5
	6100	KISV	4	S/F	0900.0	0900.2	2.0	27.0			
	3000	IZMI	5	S	0900.0	0900.2	5.0	90.0	45.0		
	3100	CRIM	3	S	0900.0	0900.5	10.0	99.0	33.0		
	9500	POTS	20	GRF	0900.0	0901.0	18.0	15.0			
	9100	GORK	20	GRF	0900.0	0901.2	17.4	20.0			
	15000	KISV	20	GRF	0900.0	0902.5	11.0	17.0			
	8800	LEAR	4	S/F	0900.1	0900.6	2.9	22.0			QL=6 ST=2 TYP=3
	6100	KISV	29	PBI	0902.0	0902.0	10.0	18.0			
	2950	GORK	29	PBI	0904.2	0904.3	13.5	15.7			
	610	LEAR	47	GB	0906.8	0907.0	1.5	110.0			QL=6 ST=2 TYP=5
	410	LEAR	8	S	0908.5	0908.6	.1	20.0			QL=6 ST=2 TYP=3

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

DECEMBER 1982

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
20	260	ONDR	46	C	0924.0	0925.0	1.5	24.0	19.0		
	100	GORK	45	C	0924.3	0924.6	2.2	240.0D			
	200	GORK	4	S/F	0924.3	0925.2	1.7	25.0D			
	100	GORK			0924.3	0925.5		240.0D			
	245	LEAR	47	GB	0924.8	0924.8	.5	51.0			QL=6 ST=2 TYP=5
	260	ONDR	40	F	0954.0	0954.5	2.5	37.0			
	810	KRAK	8	S	1130.7	1130.8	.1	15.0			
	9400	HUAN	20	GRF	1133.0	1141.8	24.9	7.6	2.2		0
	260	ONDR	40	F	1138.0	1157.0	20.0	9.0			
	536	ONDR	42	SER	1147.0	1147.5	3.0	11.0			
	430	KRAK	8	S	1244.0	1244.0	.1	14.0			
	930	BORD	8	S	1333.8	1333.9	.2	18.0	4.0		
	2800	OTTA	20	GRF	1615.0	1617.0	50.0	7.2	3.0		
	9400	HUAN	2	S/F	2120.3	2123.2	6.9	11.8	5.3		L
	2695	PENT	1	S	2121.9	2122.9	4.5	5.4	2.5		
	245	LEAR	8	S	2251.1	2251.1	.2	17.0			QL=6 ST=2 TYP=3
	9400	TYKW	5	S	2257.0	2257.2	1.0	17.0	5.0		
21	245	LEAR	43	NS	0215.8	0218.1	9.3	47.0			QL=6 ST=3 TYP=1
	245	PALE	43	NS	0223.8	0230.3		260.0			QL=6 ST=3 TYP=1
	245	PALE	43	NS	1747.8	0019.1	574.2D	130.0			QL=6 ST=2 TYP=1
	245	LEAR	8	S	0113.8	0114.1	.5	16.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0127.3	0127.3	.2	13.0			QL=6 ST=2 TYP=3
	2000	TYKW	29	PBI	0203.0		10.0	2.0	1.0		
	245	LEAR	8	S	0203.6	0203.6	.4	1.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0203.6	0203.8	.2	7.0			QL=6 ST=2 TYP=3
	610	LEAR	8	S	0203.6	0203.8	.2	11.0			QL=6 ST=2 TYP=3
	9395	PEKG	1	S	0211.0	0213.0	7.0	7.2	2.7		
	2840	PEKG	4	S/F	0211.0	0213.5	10.0	25.9	2.7		
	9400	TYKW	5	S	0212.0	0213.3	3.0	6.0	2.0		
	3750	TYKW	45	C	0212.0	0213.4	4.0	25.0	4.0		
	2000	TYKW	45	C	0212.0	0213.4	3.0	32.0	8.0		
	100	HIRA	46	C	0212.0	0214.3	3.4	170.0	76.0		0
	200	HIRA	45	C	0212.7	0213.0	2.0	68.0	27.0		WR
	1000	TYKW	45	C	0212.7	0213.3	3.0	20.0	3.0		
	410	LEAR	47	GB	0212.8	0212.8	.3	70.0			QL=6 ST=2 TYP=5
	245	LEAR	49	GB	0212.8	0212.8	.5	1699.0			QL=6 ST=2 TYP=6
	410	PALE	47	GB	0212.8	0213.0	.5	130.0			QL=6 ST=2 TYP=5
	245	PALE	49	GB	0212.8	0213.0	11.0	2000.0			QL=6 ST=2 TYP=6
	2695	LEAR	8	S	0213.0	0213.3	1.1	22.0			QL=6 ST=2 TYP=3
	4995	LEAR	8	S	0213.0	0213.3	.8	20.0			QL=6 ST=2 TYP=3
	1415	LEAR	8	S	0213.1	0213.5	1.2	26.0			QL=6 ST=2 TYP=3
	1415	PALE	8	S	0213.1	0213.6	.5	20.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	0213.5	0213.6	.6	10.0			QL=5 ST=2 TYP=3
	2000	TYKW	29	PBI	0215.0		5.0	2.0	1.0		
	245	LEAR	47	GB	0314.3	0314.6	.5	68.0			QL=6 ST=2 TYP=5
	2000	TYKW	21	GRF	0320.0	0440.0	180.0	2.0	1.0		
	2000	TYKW	5	S	0340.0	0341.0	4.0	1.5	.5		
	245	LEAR	8	S	0400.6	0400.8	.4	30.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0404.8	0404.8	.2	30.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0404.8	0404.8	.2	8.0			QL=6 ST=2 TYP=3
	245	LEAR	47	GB	0421.5	0421.6	.1	50.0			QL=6 ST=2 TYP=5
	410	LEAR	8	S	0421.5	0421.6	.1	8.0			QL=6 ST=2 TYP=3
	2000	TYKW	5	S	0423.0	0424.0	5.0	18.0	6.0		
	2840	PEKG	3	S	0423.0	0424.0	9.0	14.6	4.1		
	500	HIRA	7	C	0423.2	0423.6	1.0	140.0	15.0		0
	610	LEAR	8	S	0423.3	0423.3	.5	18.0			QL=6 ST=2 TYP=3
	1415	LEAR	4	S/F	0423.3	0424.0	2.5	11.0			QL=6 ST=2 TYP=3
	1000	TYKW	5	S	0423.4	0424.1	4.0	2.0	.7		
	3750	TYKW	5	S	0423.5	0424.0	4.5	9.0	3.5		
	4995	LEAR	8	S	0423.5	0424.0	1.8	8.0			QL=6 ST=2 TYP=3
	2695	LEAR	8	S	0423.8	0423.8	.3	13.0			QL=6 ST=2 TYP=3
	2000	TYKW	30	PBI	0428.0		11.0	2.0	1.0		
	8800	LEAR	8	S	0429.8	0430.0	.3	6.0			QL=5 ST=3 TYP=3
	610	LEAR	8	S	0429.8	0430.0	.3	8.0			QL=6 ST=2 TYP=3
	4995	LEAR	8	S	0429.8	0430.0	.3	6.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0430.0	0430.1	.1	11.0			QL=6 ST=2 TYP=3
	2000	TYKW	5	S	0431.0	0431.2	1.0	1.5	.5		
	3750	TYKW	5	S	0431.0	0431.2	1.0	5.0	1.5		
	9400	TYKW	5	S	0431.0	0431.2	.7	9.0	2.0		
	100	HIRA	8	S	0446.8	0447.1	.4	560.0			WL

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Day	Freq	Sta.	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
21	2840	PEKG	4	S/F	0451.0	0500.2	26.0	32.0	2.7		
	200	HIRA	46	C	0451.6	0452.3	1.1	565.0	130.0		WR
	2000	TYKW	8	S	0452.4	0452.5	.3	18.0	3.0		
	3750	TYKW	45	C	0454.0	0500.0	15.0	30.0	6.0		
	9395	PEKG	46	C	0454.0	0500.2	16.0	36.9	5.7		
	245	LEAR	8	S	0456.8	0457.0	.3	34.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0456.8	0457.1	.3	13.0			QL=6 ST=2 TYP=3
	2000	TYKW	45	C	0457.0	0500.0	6.0	20.0	7.0		
	500	HIRA	7	C	0458.4	0458.7	1.4	10.0	6.0		0
	9400	TYKW	45	C	0458.5	0500.1	6.0	30.0	10.0		
	1000	TYKW	5	S	0459.0	0501.4	6.0	8.0	3.0		
	3750	TYKW	5	S	0520.0	0523.0	20.0	2.0	1.0		
	9400	TYKW	5	S	0535.7	0536.0	1.0	8.0	2.0		
	2000	TYKW	5	S	0545.0	0546.1	4.0	16.0	5.0		
	1000	TYKW	5	S	0545.0	0546.2	3.0	2.0	.7		
	2840	PEKG	4	S/F	0545.0	0546.3	4.0	18.8	3.4		
	2695	LEAR	8	S	0545.3	0546.0	1.7	15.0			QL=6 ST=2 TYP=3
	3750	TYKW	5	S	0545.5	0546.0	2.5	6.0	2.5		
	1415	LEAR	8	S	0545.6	0546.0	1.0	10.0			QL=6 ST=2 TYP=3
	2000	TYKW	30	PBI	0549.0		30.0	2.0	1.0		
	2000	TYKW	28	PRE	0555.0	0559.7	15.0	5.0	3.0		
	3750	TYKW	5	S	0559.0	0613.5	20.0	18.0	5.0		
	1000	TYKW	45	C	0607.0	0613.9	12.0	18.0	6.0		
	9400	TYKW	5	S	0607.0E	0615.0	13.0D	8.0	4.0D		
	2000	TYKW	5	S	0610.0	0613.4	9.0	29.0	8.0		
	2840	PEKG	4	S/F	0611.0	0613.5	12.0	21.0	3.6		
	245	LEAR	4	S/F	0611.6	0613.6	3.2	18.0			QL=6 ST=3 TYP=3
	410	LEAR	4	S/F	0612.0	0612.1	2.5	32.0			QL=6 ST=3 TYP=3
	100	HIRA	46	C	0612.0	0612.8	3.0	2000.0	270.0		WL
	3100	CRIM	1	S	0612.0	0613.4	3.0	17.0	6.0		
	2695	ATHN	4	S/F	0612.0	0613.6	3.6	20.0			QL=2 ST=2 TYP=3
	610	LEAR	4	S/F	0612.0	0614.0	2.3	8.0			QL=6 ST=3 TYP=3
	200	HIRA	46	C	0612.3	0612.7	2.0	375.0	21.0		0
	1415	ATHN	4	S/F	0612.6	0613.6	2.2	20.0			QL=6 ST=2 TYP=3
	1415	LEAR	8	S	0613.0	0613.6	1.8	22.0			QL=6 ST=2 TYP=3
	2695	LEAR	8	S	0613.1	0613.1	1.5	21.0			QL=6 ST=2 TYP=3
	4995	LEAR	8	S	0613.6	0613.8	1.0	6.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	0613.6	0615.3	2.0	7.0			QL=5 ST=3 TYP=3
	245	LEAR	8	S	0614.1	0614.1	.4	5.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0645.3	0646.1	1.7	16.0			QL=6 ST=2 TYP=3
	100	HIRA	46	C	0645.4	0645.4	2.3	10000.0D	4800.0D		
	200	HIRA	46	C	0645.4	0645.5	1.4	42.0	13.0		0
	8800	ATHN	20	GRF	0654.3	0700.3	8.0	17.0			QL=2 ST=2 TYP=2
	8800	ATHN	20	GRF	0702.1	0706.3	7.5	13.0			QL=2 ST=2 TYP=2
	100	GORK	41	F	0833.3	0833.7	3.8	217.0			
	100	GORK				0833.3	0836.8	135.0			
	3100	CRIM	26	FAL	0850.0	1000.0		7.0			
	410	LEAR	8	S	0913.0	0913.5	.8	10.0			QL=6 ST=2 TYP=3
	930	BORD	8	S	0933.7	0933.8	.3	23.0	2.0		
	6100	KISV	1	S	1117.0	1117.1	1.0	3.0			
	260	ONDR	40	F	1141.0	1141.3	29.0	57.0			
	8800	ATHN	4	S/F	1156.3	1156.6	2.8	43.0			QL=2 ST=2 TYP=3
	260	ONDR	8	S	1227.5	1228.0	1.0	27.0			
	260	ONDR	41	F	1334.0	1346.0	14.0D	81.0			
	930	BORD	8	S	1334.8	1334.8	.1	18.0	1.0		
	930	BORD	41	F	1424.0	1424.4	.5	33.0	2.0		
	9400	HUAN	2	S/F	1845.3	1847.5	4.2	12.7	5.6		0
	15400	PALE	8	S	1847.3	1847.6	.7	28.0			QL=6 ST=2 TYP=3
	9400	HUAN	1	S	1926.8	1927.7	2.3	5.6	3.0		0
	2800	OTTA	3	S	2032.0	2035.2	14.0	15.2	5.0		
	3750	TYKW	45	C	2307.0	2309.0	6.0	23.0	6.0		
	9400	TYKW	45	C	2307.5	2308.9	5.5	119.0	33.0		RAIN
	8800	PALE	47	GB	2307.8	2308.8	5.0	139.0			QL=6 ST=2 TYP=5
	4995	LEAR	47	GB	2308.0	2308.8	2.6	53.0			QL=6 ST=2 TYP=5
	8800	LEAR	47	GB	2308.0	2308.8	3.1	119.0			QL=6 ST=2 TYP=5
	4995	PALE	47	GB	2308.1	2308.8	2.4	52.0			QL=6 ST=2 TYP=5
	15400	LEAR	47	GB	2308.6	2308.8	2.0	58.0			QL=6 ST=2 TYP=5
	15400	PALE	47	GB	2308.6	2308.8	2.2	70.0			QL=6 ST=2 TYP=5
	17000	NOBE	1	S	2308.7	2308.9	3.0	42.0			L
	2695	LEAR	8	S	2309.1	2309.3	1.2	7.0			QL=6 ST=2 TYP=3
	9400	TYKW	30	PBI	2313.0		40.0	4.0	2.0		

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
21	3750	TYKW	29	PBI	2313.0		11.0	2.0	1.0		
	9400	TYKW	45	C	2326.0	2326.7	6.0	15.0	5.0		
	3750	TYKW	45	C	2326.0	2328.2	5.0	11.0	6.0		
	4995	LEAR	8	S	2326.5	2326.6	.3	16.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	2326.5	2326.6	.3	16.0			QL=6 ST=2 TYP=3
	4995	PALE	4	S/F	2326.5	2326.6	2.3	21.0			QL=6 ST=2 TYP=3
	8800	PALE	4	S/F	2326.5	2327.1	2.6	23.0			QL=6 ST=2 TYP=3
22	245	LEAR	8	S	0124.3	0124.5	.3	16.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0124.3	0124.5	.3	6.0			QL=6 ST=2 TYP=3
	1000	TYKW	45	C	0133.0	0134.3	3.0	9.0	3.0		
	2000	TYKW	45	C	0133.0	0134.4	5.0	51.0	9.0		
	3750	TYKW	45	C	0133.0	0134.4	5.0	47.0	8.0		
	100	HIRA	46	C	0133.0	0133.8	2.0	7000.0	1110.0		WL
	500	HIRA	8	S	0133.4	0134.0	.6	7.0	4.0		SR
	9400	TYKW	45	C	0133.5	0134.3	2.5	15.0	3.0		RAIN
	2695	LEAR	47	GB	0133.6	0133.8	1.5	60.0			QL=6 ST=2 TYP=5
	410	LEAR	8	S	0133.6	0134.1	.9	20.0			QL=6 ST=2 TYP=3
	610	LEAR	8	S	0133.6	0134.1	1.4	8.0			QL=6 ST=2 TYP=3
	1415	LEAR	8	S	0133.6	0134.3	1.5	24.0			QL=6 ST=2 TYP=3
	1415	PALE	8	S	0133.6	0134.3	1.0	24.0			QL=6 ST=2 TYP=3
	4995	LEAR	8	S	0133.6	0134.3	1.7	31.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	0133.6	0134.3	1.5	22.0			QL=6 ST=2 TYP=3
	200	HIRA	8	S	0133.7	0134.0	.6	73.0			0
	245	LEAR	8	S	0134.0	0134.1	.3	28.0			QL=6 ST=2 TYP=3
	4995	PALE	8	S	0134.1	0134.3	.5	27.0			QL=6 ST=2 TYP=3
	9400	TYKW	31	ABS	0136.0	0146.0	23.0	-4.0	-2.0		
	1000	TYKW	31	ABS	0136.0	0152.0	23.0	-1.0	-.5		
	3750	TYKW	31	ABS	0138.0	0153.0	29.0	-2.0	-1.0		
	2000	TYKW	31	ABS	0138.0	0153.0	29.0	-4.0	-2.0		
	200	HIRA	41	F	0206.8	0206.8	2.7	610.0			0
	245	LEAR	47	GB	0206.8	0207.3	2.5	56.0			QL=6 ST=2 TYP=5
	1000	TYKW	5	S	0207.0	0208.6	3.0	1.5	.5		
	2000	TYKW	45	C	0207.0	0208.6	3.0	10.0	6.0		
	3750	TYKW	45	C	0207.0	0208.7	6.0	10.0	4.0		
	100	HIRA	46	C	0207.0	0207.6	2.7	3200.0	830.0		WL
	9400	TYKW	5	S	0207.5	0209.0	25.0	5.0	2.0		
	2695	LEAR	4	S/F	0208.0	0208.6	2.3	17.0			QL=6 ST=2 TYP=3
	1415	LEAR	8	S	0208.1	0208.5	1.0	8.0			QL=6 ST=2 TYP=3
	4995	LEAR	4	S/F	0208.6	0208.6	2.2	10.0			QL=6 ST=2 TYP=3
	2000	TYKW	30	PBI	0210.0		20.0	2.0	.7		
	3750	TYKW	30	PBI	0213.0		30.0	2.0	1.0		
	2000	TYKW	5	S	0218.5	0219.5	2.5	2.0	.7		
	3750	TYKW	5	S	0219.0	0219.6	1.5	2.0	.7		
	2000	TYKW	5	S	0323.3	0323.7	.7	3.0	1.0		
	245	LEAR	8	S	0406.3	0406.3	.2	11.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0420.8	0420.8	.3	19.0			QL=6 ST=2 TYP=3
	3750	TYKW	5	S	0527.0	0527.8	4.0	4.0	1.5		
	410	LEAR	8	S	0705.3	0705.6	1.0	30.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0743.3	0743.5	.3	13.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0802.0	0802.1	.1	13.0			QL=6 ST=2 TYP=3
	3100	CRIM	3	S	0823.2	0826.0	24.0	1000.0			
	3000	POTS	45	C	0823.5	0826.0	12.0	1290.0			
	9500	POTS	45	C	0823.5	0827.4	9.7	247.0			
	1470	POTS	45	C	0823.7	0829.0	16.0	200.0			
	4995	LEAR	49	GB	0823.8	0825.8	10.8	680.0			QL=6 ST=2 TYP=6
	6100	KISV	47	GB	0823.8	0826.0	6.0	30.6			
	2695	LEAR	49	GB	0823.8	0826.1	12.0	900.0			QL=6 ST=2 TYP=6
	3100	BERN	47	GB	0824.0	0825.9	14.0	1368.0			
	2950	GORK	47	GB	0824.0	0826.0	8.8	945.0			
	5200	BERN	47	GB	0824.0	0826.1	14.0	1703.0			
	2650	DWIN	47	GB	0824.0	0827.0	10.0	700.0	300.0		
	9100	GORK	4	S/F	0824.0	0827.1	7.5	286.0			
	15000	KISV	45	C	0824.0	0827.4	10.0	351.0			
	15000	KISV			0824.0	0829.8		258.0			
	8800	LEAR	47	GB	0824.1	0827.0	10.4	320.0			QL=6 ST=2 TYP=5
	3000	IZMI	47	GB	0824.3	0827.0	10.0	1140.0	768.0		
	1415	LEAR	47	GB	0824.6	0827.3	13.0	290.0			QL=6 ST=2 TYP=5
	15400	LEAR	47	GB	0824.8	0827.3	8.3	470.0			QL=6 ST=2 TYP=5
	950	GORK	4	S/F	0825.1	0828.5	13.7	288.0			
	650	GORK	4	S/F	0825.4	0828.7	5.60	137.0			

SOLAR RADIO EMISSION
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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
22	930	BORD	45	C	0826.0E	0828.6U	11.0U	386.0	90.0		
	610	LEAR	47	GB	0826.1	0828.6	13.0	119.0			QL=6 ST=3 TYP=5
	810	KRAK	45	C	0826.5	0828.8	11.5	220.0	38.0		
	810	KRAK			0826.5	0830.5		75.0			
	610	LEAR	47	GB	0827.6	0827.8	11.5	30.0			QL=6 ST=2 TYP=5
	430	KRAK	3	S	0828.0	0830.7	4.0U	29.0	12.0		
	410	LEAR	4	S/F	0828.1	0830.5	9.2	16.0			QL=6 ST=2 TYP=3
	6100	KISV	29	PBI	0829.8	0830.0	30.0	62.0			
	9100	GORK	29	PBI	0831.5	0831.5	148.5	33.0			
	204	IZMI	41	F	0832.0	0833.0	1.8	900.0			
	200	GORK	4	S/F	0832.3	0833.8	2.5	130.0			
	245	LEAR	8	S	0833.8	0834.1	1.0	20.0			QL=6 ST=2 TYP=3
	113	POTS	41	F	0922.2	0923.4	1.2	125.0	6.0		III
	6100	KISV	21	GRF	0942.0	0945.2	12.0	4.0			
	610	LEAR	8	S	0944.6	0944.8	.2	30.0			QL=6 ST=2 TYP=3
	260	ONDR	41	F	1024.5	1025.0	5.0	8.0			
	410	LEAR	47	GB	1032.0	1032.1	1.5	119.0			QL=6 ST=2 TYP=5
	430	KRAK	8	S	1032.5	1032.8	.5	90.0			
	6100	KISV	1	S	1033.0	1033.9	2.0	4.0			
	536	ONDR	8	S	1034.0	1034.0	.1	6.0			
	260	ONDR	41	F	1040.5	1042.5	5.0	2.0			
	260	ONDR	41	F	1106.0	1107.5	31.0	3.0			
	430	KRAK	8	S	1144.5	1145.0	1.0	93.0			
	260	ONDR	41	F	1244.0	1249.5	66.0D	7.0			
	810	KRAK	42	SER	1316.5	1320.5	7.0U	21.0			
	2800	OTTA	21	GRF	1330.0		390.0	11.0			
	2800	OTTA	2	S/F	1653.0	1655.1	4.0	8.0	1.4		
	2800	OTTA	20	GRF	2020.0	2024.0	14.0	3.0	1.4		
	9400	HUAN	1	S	2022.4	2023.9	2.8	4.1	3.0		0
	410	PALE	47	GB	2038.6	2038.8	.5	99.0			QL=6 ST=2 TYP=5
	610	LEAR	8	S	2241.6	2242.0	.5	13.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	2345.8	2346.3	.7	11.0			QL=6 ST=2 TYP=3
	245	LEAR	47	GB	2346.3	2346.5	.3	70.0			QL=6 ST=2 TYP=5
23	245	LEAR	8	S	0148.8	0148.8	.2	17.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0159.1	0159.3	.2	17.0			QL=6 ST=2 TYP=3
	1415	LEAR	4	S/F	0507.8	0508.8	2.2	3.0			QL=6 ST=2 TYP=3
	3750	TYKW	5	S	0508.0	0508.6	5.0	3.0	1.0		
	2000	TYKW	5	S	0508.0	0508.7	4.0	5.0	2.0		
	245	LEAR	4	S/F	0508.0	0509.0	2.8	24.0			QL=6 ST=2 TYP=3
	2695	LEAR	4	S/F	0508.0	0509.0	2.8	7.0			QL=6 ST=2 TYP=3
	1000	TYKW	5	S	0508.4	0508.7	1.5	1.5	.5		
	410	LEAR	8	S	0508.5	0508.6	.3	33.0			QL=6 ST=2 TYP=3
	2000	TYKW	5	S	0526.7	0527.4	2.5	3.0	1.0		
	245	LEAR	8	S	0558.1	0558.5	.5	27.0			QL=6 ST=2 TYP=3
	6100	KISV	45	C	0726.0	0728.0	19.0	10.0			
	6100	KISV			0726.0	0729.2		9.0			
	3100	CRIM	3	S	0727.0	0728.5	4.0	10.0	3.0		
	245	LEAR	4	S/F	0727.5	0729.3	2.8	36.0			QL=6 ST=2 TYP=3
	2695	LEAR	8	S	0727.8	0727.8	.3	11.0			QL=6 ST=2 TYP=3
	610	LEAR	47	GB	0728.3	0729.0	2.3	63.0			QL=6 ST=2 TYP=5
	4995	LEAR	8	S	0728.5	0728.6	.3	11.0			QL=6 ST=2 TYP=3
	3100	CRIM	29	PBI	0731.0	0732.5	8.0	6.0	2.0		
	6100	KISV	1	S	0854.0	0854.7	1.0	3.0			
	3100	CRIM	21	GRF	0929.0	0937.0	112.0	5.0	2.0		
	6100	KISV	22	GRF	0930.0	0944.0	24.0	4.0			
	3100	CRIM	1	S	1018.2	1018.4	1.0	5.0	2.0		
	6100	KISV	2	S/F	1019.0	1020.0	3.0	10.0			
	950	GORK	4	S/F	1019.3	1019.5	.8	53.0			
	930	BORD	41	F	1019.4	1019.6	.6	122.0	3.0		
	2950	GORK	2	S/F	1019.5	1019.7	2.0	11.3			
	260	ONDR	8	S	1039.5	1039.8	.5	6.0			
	6100	KISV	2	S/F	1048.0	1053.0	12.0	3.0			
	127	TORN	45	C	1146.8	1148.0	4.8	40.0	10.0		
	113	POTS	42	SER	1147.3	1149.1	8.4	300.0	1.0		III
	260	ONDR	8	S	1148.0	1148.0	.1	15.0			
	127	TORN	8	S	1155.3		.8	50.0D	20.0		
	260	ONDR	8	S	1224.0	1224.0	.1	4.0			
	260	ONDR	8	S	1326.5	1326.5	.1	3.0			
	2695	ATHN	4	S/F	1402.6	1405.3	5.2	8.0			QL=2 ST=2 TYP=3
	4995	ATHN	4	S/F	1403.0	1405.3	4.8	20.0			QL=2 ST=2 TYP=3

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
23	8800	ATHN	4	S/F	1403.0	1405.3	4.6	21.0			QL=6 ST=2 TYP=3
	1415	ATHN	4	S/F	1403.1	1405.3	4.7	9.0			QL=6 ST=2 TYP=3
	930	BORD	41	F	1425.0	1425.2	1.2	15.0	2.0		
	2800	OTTA	27	RF	1520.0		200.0	3.6	2.8		
	2800	OTTA	24	R	1520.0	1533.0	13.0	3.6	1.6		
	2800	OTTA	24P	R	1533.0		137.0	3.6			
	2800	OTTA	26	FAL	1750.0	1840.0	50.0	-3.6	-1.6		
	410	PALE	8	S	1919.3	1919.5	.3	36.0			QL=3 ST=2 TYP=3
	2695	PENT	20	GRF	2010.0	2110.0	95.0	6.6	3.3		
	245	LEAR	47	GB	2239.6	2239.8	.5	160.0			QL=6 ST=2 TYP=5
24	3750	TYKW	5	S	0058.0	0105.0	20.0	2.0	1.0		
	3750	TYKW	21	GRF	0122.0	0147.0	70.0	2.0	1.0		
	2000	TYKW	5	S	0124.0	0124.7	2.0	1.5	.5		
	3750	TYKW	5	S	0124.0	0124.7	2.0	4.0	1.0		
	100	HIRA	46	C	0124.3	0124.5	1.2	4100.0	810.0		0
	245	LEAR	8	S	0127.1	0127.1	.2	17.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0129.6	0129.6	.2	11.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0147.5	0147.8	.3	11.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0147.5	0147.8	.6	40.0			QL=6 ST=2 TYP=3
	3750	TYKW	20	GRF	0319.0	0328.5	50.0	2.5	1.0		
	3750	TYKW	5	S	0444.0	0445.0	7.0	1.5	.5		
	3750	TYKW	21	GRF	0453.0	0458.0	60.0	2.5	1.0		
	100	HIRA	46	C	0453.4	0453.6	.9	2900.0	530.0		0
	3750	TYKW	5	S	0453.5	0453.9	1.5	1.5	.5		
	2000	TYKW	5	S	0456.0	0458.0	6.0	1.5	.5		
	9400	TYKW	5	S	0522.3	0522.6	.7	9.0	3.0		
	9400	TYKW	5	S	0627.0	0627.3	.7	16.0	5.0		
	410	LEAR	8	S	0740.0	0740.1	.1	13.0			QL=6 ST=2 TYP=3
	245	LEAR	4	S/F	0740.1	0740.1	6.0	2.0			QL=6 ST=2 TYP=3
	245	LEAR	4	S/F	0747.3	0747.3	60.0	11.0			QL=6 ST=2 TYP=3
	6100	KISV	2	S/F	0758.6	0800.0	2.0	3.0			
	260	ONDR	8	S	0902.0	0902.0	1.0	8.0			
	260	ONDR	8	S	0909.0	0909.0	.1	4.0			
	6100	KISV	20	GRF	1006.0	1017.5	24.0	7.0			
	2950	GORK	20	GRF	1006.0	1021.0	48.0	9.7			
	9100	GORK	20	GRF	1013.0	1018.7	22.5	17.0			
	6100	KISV	2	S/F	1114.3	1115.0	1.5	3.0			
	260	ONDR	42	SER	1211.0	1212.0	5.0	20.0			
	9400	HUAN	4	S/F	1213.4	1213.7	1.5	64.1	20.5		L
	9400	HUAN	3	S	1240.5	1241.2	1.2	20.5	6.5		L
	29	UPIC	42	SER	1243.3	1244.4	63.3				
	33	UPIC	42	SER	1243.6	1244.5	63.7U				
	9500	POTS	1	S	1305.5	1306.4	2.0	8.4			
	3000	POTS	3	S	1305.7	1306.4	1.5	9.0			
	260	ONDR	42	SER	1345.0	1345.0	3.0	4.0			
	2800	OTTA	240	R	1515.0	1640.0	85.0	5.0	2.5		
	2800	OTTA	240	AR	1910.0	1926.0	16.0	9.0	4.5		
	610	SGMR	47	GB	1914.5	1914.6	.5	260.0			QL=6 ST=2 TYP=5
	2800	OTTA	4	S/F	1914.5	1915.0	3.0	27.0	6.8		
	2695	SGMR	47	GB	1914.8	1915.1	1.0	53.0			QL=6 ST=2 TYP=5
	1415	SGMR	8	S	1915.0	1915.1	.6	22.0			QL=6 ST=2 TYP=3
	410	SGMR	47	GB	1916.8	1917.0	.5	189.0			QL=6 ST=2 TYP=5
	2800	OTTA	21	GRF	1927.0	1938.0	110.0	12.0	5.6		
	2800	OTTA	1	S	1930.0	1930.1	1.0	3.2	1.8		
	2800	OTTA	2	S/F	1936.5	1938.0	4.0	6.0	3.0		
	245	PALE	47	GB	1938.6	1939.0	1.2	110.0			QL=6 ST=2 TYP=5
	245	SGMR	47	GB	1938.8	1939.0	1.0	69.0			QL=6 ST=2 TYP=5
	2800	OTTA	8	S	2052.8	2052.9	.2	54.0			
	100	HIRA	8	S	2338.0	2338.0	.3	1500.0			WL
	100	HIRA	46	C	2343.8	2344.3	1.0	2300.0	240.0		0
25	208	VORO	44	NS	0000.0E		240.0D		3.0		
	200	GORK	44	NS	0630.0E		300.0D		5.0		
	221	ABST	43	NS	0725.0	0726.2	30.0	11.0			
	29	UPIC	44	NS	0730.0E	0752.1	420.0D				
	33	UPIC	44	NS	0730.0E	0753.2	420.0D				
	204	IZMI	43	NS	0820.0		220.0	27.0			
	260	ONDR	44	NS	0827.0E		344.0D				
	100	GORK	43	NS	0905.0		60.0		5.0		
	245	PALE	43	NS	1730.0	2136.8	598.0D	62.0			QL=6 ST=2 TYP=1

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
25	100	HIRA	44	NS	2147.0E	0506.0	580.0D	160.0	80.0		SR
	200	HIRA	44	NS	2147.0E	0545.0	580.0D	65.0	40.0		MR
	1415	LEAR	8	S	0001.6	0002.1	.7	20.0			QL=6 ST=2 TYP=3
	3750	TYKW	21	GRF	0020.0	0058.0	60.0	2.0	1.0		
	245	LEAR	8	S	0031.6	0031.8	.2	20.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0031.6	0031.8	.2	6.0			QL=6 ST=2 TYP=3
	3750	TYKW	5	S	0111.0	0112.0	2.0	2.0	.5		
	2000	TYKW	5	S	0111.6	0111.9	1.0	1.0	.3		
	245	LEAR	8	S	0118.8	0119.3	.5	20.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0118.8	0119.3	.5	5.0			QL=6 ST=2 TYP=3
	100	HIRA	46	C	0128.0	0128.6	1.0	1200.0	370.0		0
	245	LEAR	8	S	0128.5	0128.8	.5	11.0			QL=6 ST=2 TYP=3
	3750	TYKW	20	GRF	0140.0	0205.0	60.0	2.0	1.0		
	245	LEAR	8	S	0143.3	0143.5	.3	13.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0143.3	0143.5	.3	5.0			QL=6 ST=2 TYP=3
	2000	TYKW	5	S	0200.0	0210.0	15.0	2.0	1.0		
	2000	TYKW	31	ABS	0215.0	0240.0	60.0	-3.0	-1.5		
	208	VORO	4	S/F	0243.0	0243.0	1.0	126.0			
	100	HIRA	45	C	0243.3	0243.5	.9	5400.0	900.0		WL
	200	HIRA	7	C	0243.3	0243.6	2.4	385.0	34.0		0
	245	LEAR	47	GB	0243.5	0243.6	2.1	90.0			QL=6 ST=2 TYP=5
	245	PALE	47	GB	0243.6	0243.8	.2	100.0			QL=6 ST=2 TYP=5
	3750	TYKW	28	PRE	0310.0	0325.0	15.0	5.0	2.5		
	2000	TYKW	21	GRF	0320.0	0419.0	160.0	3.0	1.5		
	2000	TYKW	5	S	0325.0	0327.2	3.0	5.0	3.0		
	3750	TYKW	5	S	0325.0	0327.5	8.0	20.0	10.0		
	9400	TYKW	20	GRF	0325.0	0329.0	45.0	5.0	2.0		
	2840	PEKG	3	S	0325.0	0327.4	12.0	14.0	4.2		
	2000	TYKW	29	PBI	0328.0		15.0	3.0	1.5		
	3750	TYKW	30	PBI	0333.0		140.0	8.0	4.0		
	3750	TYKW	5	S	0344.0	0344.9	2.0	5.0	2.0		
	3750	TYKW	30	PBI	0346.0		25.0	2.0	1.0		
	3750	TYKW	5	S	0353.5	0355.0	10.0	5.0	1.5		
	2000	TYKW	5	S	0354.0	0355.0	3.0	5.0	2.0		
	2840	PEKG	3	S	0354.0	0355.1	7.0	12.1	2.1		
	2695	LEAR	4	S/F	0354.8	0354.8	2.2	11.0			QL=6 ST=2 TYP=3
	2000	TYKW	29	PBI	0357.0		13.0	1.0	.5		
	410	LEAR	8	S	0421.6	0421.8	1.2	32.0			QL=6 ST=2 TYP=3
	3750	TYKW	21	GRF	0425.0	0452.0	85.0	4.0	2.0		
	2000	TYKW	21	GRF	0425.0	0456.0	85.0	5.0	2.5		
	2695	LEAR	8	S	0425.8	0425.8	.2	10.0			QL=6 ST=2 TYP=3
	610	LEAR	8	S	0426.1	0426.1	.4	34.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0426.8	0426.8	.2	22.0			QL=6 ST=2 TYP=3
	245	LEAR	4	S/F	0426.8	0427.0	2.2	13.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0442.8	0443.8	1.5	15.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0443.0	0443.8	1.3	5.0			QL=6 ST=2 TYP=3
	3750	TYKW	20	GRF	0459.0	0505.0	45.0	7.0	4.0		
	9400	TYKW	20	GRF	0500.0	0505.0	40.0	4.0	2.0		
	2000	TYKW	45	C	0501.0	0506.0	7.0	20.0	5.0		
	2840	PEKG	45	C	0502.0	0505.6	18.0	39.2	7.9		
	2695	LEAR	4	S/F	0504.1	0505.6	8.5	43.0			QL=6 ST=2 TYP=3
	1000	TYKW	45	C	0504.3	0505.5	3.0	4.0	1.5		
	1415	LEAR	4	S/F	0504.3	0505.8	3.3	18.0			QL=6 ST=2 TYP=3
	610	LEAR	8	S	0504.8	0504.8	.3	3.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0505.8	0506.1	.5	11.0			QL=6 ST=2 TYP=3
	2000	TYKW	29	PBI	0508.0		30.0	3.0	1.5		
	610	LEAR	8	S	0524.1	0524.3	.5	31.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0555.0	0555.1	.1	20.0			QL=6 ST=2 TYP=3
	2000	TYKW	45	C	0611.0	0632.6	25.0	7.0	3.0		
	3750	TYKW	45	C	0612.0	0632.6	30.0	9.0	3.0		
	2695	LEAR	20	GRF	0612.0	0614.1	20.0	8.0			QL=6 ST=2 TYP=2
	1415	LEAR	20	GRF	0613.8	0618.1	18.2	5.0			QL=6 ST=2 TYP=2
	9400	TYKW	5	S	0630.0	0632.6	4.0	9.0	3.0		
	200	GORK	8	S	0653.9	0654.1	.7	20.0D			
	100	GORK	8	S	0654.0	0654.4	.9	85.0D			
	245	LEAR	8	S	0656.0	0656.0	.1	27.0			QL=6 ST=2 TYP=3
	2840	PEKG	28	PRE	0703.0	0740.0	37.0	17.9			
	650	GORK	21	GRF	0710.0		224.0				
	2950	GORK	21	GRF	0713.0	0811.5	201.0	76.0			
	15400	LEAR	4	S/F	0715.6	0719.3	20.0	27.0			QL=6 ST=2 TYP=3
	2840	PEKG	46	C	0716.0	0720.6	13.0	50.8			

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
25	2695	LEAR	47	GB	0716.1	0717.6	19.5	57.0			QL=6 ST=2 TYP=5
	6100	KISV	3	S	0716.3	0717.3	1.5	25.0			
	4995	LEAR	4	S/F	0716.6	0717.8	19.0	33.0			QL=6 ST=2 TYP=3
	2695	ATHN	47	GB	0716.6	0720.5	14.7	59.0			QL=2 ST=2 TYP=5
	4995	ATHN	47	GB	0716.6	0720.5	14.7	61.0			QL=2 ST=2 TYP=5
	8800	ATHN	47	GB	0716.6	0722.3	14.7	77.0			QL=6 ST=2 TYP=5
	8800	LEAR	4	S/F	0716.8	0717.8	18.8	26.0			QL=6 ST=2 TYP=3
	9395	PEKG	28	PRE	0716.8	0743.0	26.2	44.6			
	245	LEAR	4	S/F	0720.3	0725.6	6.7	27.0			QL=6 ST=2 TYP=3
	950	GORK	21	GRF	0721.F	0903.8	203.0	19.0			
	1415	LEAR	4	S/F	0722.8	0723.6	5.3	22.0			QL=6 ST=2 TYP=3
	9500	POTS	46	C	0725.0E	0746.0	245.0D	1530.0			
	3000	POTS	46	C	0725.0E	0745.4	260.0D	1325.0			
	1470	POTS	47	GB	0725.0E	0745.6	260.0D	700.0			
	6100	KISV			0730.0	0746.2		979.0			
	6100	KISV			0730.0	0747.0		1056.0			
	15000	KISV	47	GB	0736.0	0745.0	14.5	379.0D			
	15000	KISV			0736.0	0746.2		1195.0			
	15000	KISV			0736.0	0747.0		1313.0			
	15000	KISV	29	PBI	0736.0	0750.5	63.5	750.0			
	2695	ATHN	49	GB	0737.3	0746.8	45.3	860.0			QL=2 ST=2 TYP=6
	2840	PEKG	1	S	0738.0	0738.5	2.0	4.8			
	4995	ATHN	49	GB	0738.6	0746.8	44.0	2800.0			QL=2 ST=2 TYP=6
	8800	ATHN	49	GB	0738.6	0746.8	44.0	1899.0			QL=6 ST=2 TYP=6
	2840	PEKG	47	GB	0740.0	0747.0	20.0	1184.0			
	650	GORK	47	GB	0740.9	0748.0	36.8	1170.0			
	6100	KISV	29	PBI	0741.0	0741.0	69.0	52.0			
	1415	ATHN	47	GB	0741.0	0745.6	41.6	440.0			QL=6 ST=2 TYP=5
	5200	BERN	47	GB	0741.0U	0747.0	110.0U	1611.0			
	3100	BERN	47	GB	0741.0U	0751.9	110.0U	855.0			
	19600	BERN	4	S/F	0741.0U	0755.3	110.0U	348.0			
	11800	BERN	47	GB	0741.0U	0755.9	110.0U	536.0			
	3000	IZMI	47	GB	0741.5	0747.0	26.0	917.0	500.0		
	1415	MANI	46	C	0741.6	0747.2	38.4	430.0	143.3		
	2695	LEAR	49	GB	0742.0	0744.5	10.8	370.0			QL=6 ST=2 TYP=6
	2950	GORK	47	GB	0742.0	0745.7	21.0	838.0			
	2950	GORK			0742.0	0746.8		951.0D			
	204	IZMI	27	RF	0742.0	0747.0	38.0	800.0	200.0		
	113	POTS	46	C	0742.0	0751.0	78.0	15000.0	100.0		
	234	POTS	46	C	0742.0	0801.0	138.0	140.0	20.0		
	245	LEAR	49	GB	0742.1	0742.5	10.7	260.0			QL=6 ST=2 TYP=6
	4995	LEAR	49	GB	0742.1	0744.1	10.7	570.0			QL=6 ST=2 TYP=6
	200	GORK	47	GB	0742.2	0749.5	48.0	1020.0D			
	100	GORK	47	GB	0742.3	0749.5	49.0	219300.0			
	950	GORK	47	GB	0742.5	0746.6	36.3	3078.0			
	9100	GORK	47	GB	0742.5	0746.8	25.7	2240.0			
	1415	LEAR	49	GB	0742.6	0744.1	10.2	330.0			QL=6 ST=2 TYP=6
	610	LEAR	49	GB	0742.8	0744.1	10.0	300.0			QL=6 ST=2 TYP=6
	8800	LEAR	49	GB	0742.8	0744.1	10.0	500.0			QL=6 ST=2 TYP=6
	15400	LEAR	49	GB	0742.8	0744.3	10.0	239.0			QL=6 ST=2 TYP=6
	410	LEAR	47	GB	0742.8	0744.3	10.0	239.0			QL=6 ST=2 TYP=5
	9395	PEKG	47	GB	0743.0	0747.0	17.0D	1082.0D			
	4995	MANI	47	GB	0743.0	0748.1	31.0	1972.0	657.3		
	29	UPIC	48	C	0743.0	0752.1	15.0				
	33	UPIC	48	C	0743.9	0753.2	14.9				
	8800	LEAR	49	GB	0752.8	0753.0	22.7	2300.0			QL=6 ST=2 TYP=6
	15400	LEAR	49	GB	0752.8	0753.0	22.7	1100.0			QL=6 ST=2 TYP=6
	410	LEAR	47	GB	0752.8	0753.0	20.3	180.0			QL=6 ST=2 TYP=5
	4995	LEAR	49	GB	0752.8	0753.0	22.7	2300.0			QL=6 ST=2 TYP=6
	2695	LEAR	49	GB	0752.8	0753.0	22.7	880.0			QL=6 ST=2 TYP=6
	610	LEAR	49	GB	0752.8	0753.0	19.8	880.0			QL=6 ST=2 TYP=6
	245	LEAR	47	GB	0752.8	0753.1	22.7	260.0			QL=6 ST=2 TYP=5
	1415	LEAR	47	GB	0752.8	0753.3	22.7	290.0			QL=6 ST=2 TYP=5
	245	LEAR	8	S	0822.0	0822.1	.3	33.0			QL=6 ST=2 TYP=3
	950	GORK	4	S/F	0841.0	0851.9	22.0	86.0			
	1415	ATHN	47	GB	0841.3	0846.3	21.0	110.0			QL=6 ST=2 TYP=5
	2695	ATHN	47	GB	0841.3	0849.6	21.0	59.0			QL=2 ST=2 TYP=5
	245	LEAR	47	GB	0841.6	0841.8	.5	410.0			QL=6 ST=2 TYP=5
	234	POTS	4	S/F	0841.7	0841.8	.3	385.0	25.0		III
	610	LEAR	47	GB	0841.8	0843.8	19.5	36.0			QL=6 ST=2 TYP=5
	650	GORK	46	C	0841.8	0845.7	18.0	54.0			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

DECEMBER 1982

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
25	650	GORK			0841.8	0849.0		37.0			
	1415	LEAR	47	GB	0842.0	0843.1	18.6	38.0			QL=6 ST=2 TYP=5
	410	LEAR	4	S/F	0842.5	0843.8	13.3	28.0			QL=6 ST=2 TYP=3
	2695	LEAR	4	S/F	0845.1	0847.8	12.2	30.0			QL=6 ST=2 TYP=3
	4995	LEAR	8	S	0847.1	0847.8	2.0	11.0			QL=6 ST=2 TYP=3
	245	LEAR	47	GB	0912.1	0912.3	.4	51.0			QL=6 ST=2 TYP=5
	536	ONDR	8	S	1022.0	1022.2	.1	8.0			
	536	ONDR	8	S	1037.5	1037.5	.1	10.0			
	260	ONDR	46	C	1250.0	1251.0	4.0	57.0			
	113	POTS	42	SER	1250.7	1251.3	5.4	150.0	4.0		III
	234	POTS	42	SER	1250.7	1255.4	5.8	1300.0	4.0		III
	536	ONDR	40	F	1251.0	1253.5	5.0	7.0			
	410	SGMR	8	S	1254.8	1255.3	1.0	45.0			QL=6 ST=2 TYP=3
	245	SGMR	49	GB	1254.8	1255.3	1.2	1600.0			QL=6 ST=2 TYP=6
	260	ONDR	46	C	1255.0	1255.0	3.0	199.0			
	2800	OTTA	21	GRF	1630.0	1730.0	110.0	3.6	2.2		
	2800	OTTA	1	S	1658.5	1659.0	1.0	2.8	1.4		
	245	SGMR	8	S	1707.8	1707.8	.5	160.0			QL=6 ST=2 TYP=3
	9400	HUAN	4	S/F	1753.7	1755.7	8.0	18.6	9.2		L
	245	SGMR	47	GB	1754.1	1754.3	2.0	260.0			QL=6 ST=2 TYP=5
	2800	OTTA	45	C	1755.5	1757.7	4.0	17.2	4.6		
	2695	SGMR	4	S/F	1755.8	1756.1	2.8	13.0			QL=6 ST=2 TYP=3
	610	SGMR	47	GB	1756.8	1757.8	1.8	230.0			QL=6 ST=2 TYP=5
	410	SGMR	8	S	1757.3	1757.5	.8	44.0			QL=6 ST=2 TYP=3
	4995	SGMR	8	S	1757.3	1757.6	1.2	21.0			QL=6 ST=2 TYP=3
	1415	SGMR	8	S	1757.5	1757.6	.3	28.0			QL=6 ST=2 TYP=3
	410	PALE	8	S	2058.8	2059.0	.3	26.0			QL=6 ST=2 TYP=3
	245	PALE	8	S	2131.0	2131.1	.3	37.0			QL=6 ST=2 TYP=3
	410	PALE	8	S	2132.6	2132.6	.4	30.0			QL=6 ST=2 TYP=3
	245	PALE	47	GB	2136.8	2136.8	.3	61.0			QL=6 ST=2 TYP=5
	410	PALE	8	S	2136.8	2136.8	.3	44.0			QL=6 ST=2 TYP=3
	245	LEAR	4	S/F	2210.0	2213.1	3.5	13.0			QL=6 ST=3 TYP=3
	245	LEAR	8	S	2218.1	2218.3	.5	42.0			QL=6 ST=2 TYP=3
	9400	TYKW	5	S	2300.6	2300.9	.6	12.0	3.0		RAIN
	200	HIRA	45	C	2305.0	2305.6	1.0	90.0	54.0		MR
	245	LEAR	8	S	2311.1	2311.1	.2	15.0			QL=6 ST=2 TYP=3
	3750	TYKW	5	S	2357.0	2357.5	2.0	4.0	1.5		
	2000	TYKW	5	S	2357.0	2357.6	3.0	4.0	1.5		
	1000	TYKW	5	S	2357.0	2357.8	2.0	2.0	.7		
26	208	VORO	44	NS	0000.0E		240.0D		36.0		
	245	LEAR	43	NS	0458.0	0713.3	353.0D	260.0			QL=6 ST=2 TYP=1
	100	GORK	44	NS	0630.0E		300.0D		10.0		
	200	GORK	44	NS	0631.0E		300.0D		3.0		
	204	IZMI	44	NS	0700.0E		300.0D	100.0			
	127	TORN	44	NS	0740.0E	0936.0	400.0D	1300.0	169.0		V=1
	260	ONDR	44	NS	0822.0E		313.0D	51.0			
	33	UPIC	43	NS	0954.9		275.1D				
	29	UPIC	43	NS	0955.2		274.8D				
	245	SGMR	43	NS	1237.0	1256.8	168.0D	60.0			QL=6 ST=2 TYP=1
	245	PALE	43	NS	1734.0	0159.8	613.0D	970.0			QL=6 ST=2 TYP=1
	200	HIRA	44	NS	2147.0E	0314.0	580.0D	90.0	60.0		MR
	100	HIRA	44	NS	2147.0E	0337.0	580.0D	600.0	390.0		SR
	245	LEAR	43	NS	2158.0	1023.8	773.0D	119.0			QL=6 ST=2 TYP=1
	410	LEAR	43	NS	2224.0	2230.0	747.0D	30.0			QL=6 ST=2 TYP=1
	200	HIRA	46	C	0010.8E	0012.7	5.6D	11000.0	295.0		0
	1000	TYKW	45	C	0011.0	0012.8	5.0	155.0	24.0		
	2000	TYKW	45	C	0011.0	0012.9	5.0	114.0	17.0		
	3750	TYKW	5	S	0011.0	0012.9	5.0	355.0	40.0		
	9400	TYKW	47	GB	0011.0	0012.9	5.0	860.0	80.0		RAIN
	100	HIRA		C	0011.0E	0012.7	3.7D	10000.0D	2490.0D		
	9395	PEKG	47	GB	0011.0	0012.9	11.0	782.0D			
	2840	PEKG	3	S	0011.0	0013.0	5.0	159.0	11.1		
	500	HIRA	45	C	0011.2	0012.6	6.0	500.0	150.0		SR
	8800	LEAR	49	GB	0011.3	0012.6	8.3	970.0			QL=6 ST=2 TYP=6
	245	LEAR	49	GB	0011.3	0014.6	4.5	1399.0			QL=6 ST=2 TYP=6
	1415	LEAR	47	GB	0011.6	0012.6	2.5	100.0			QL=6 ST=2 TYP=5
	610	LEAR	47	GB	0011.8	0012.8	4.5	430.0			QL=6 ST=2 TYP=5
	410	LEAR	47	GB	0011.8	0012.8	4.2	330.0			QL=6 ST=2 TYP=5
	4995	MANI	49	GB	0011.8	0013.3	4.2	860.0			QL=6 ST=2 TYP=6
	4995	MANI	47	GB	0011.9	0013.4	4.1	868.8	289.6		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

DECEMBER 1982

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
26	2695	LEAR	47	GB	0012.0	0012.6	5.1	189.0			QL=6 ST=2 TYP=5
	4995	LEAR	49	GB	0012.0	0012.8	4.0	510.0			QL=6 ST=2 TYP=6
	208	VORO	46	C	0012.0	0013.0	15.0	200.0D			
	1415	MANI	4	S/F	0012.0	0013.4	4.0	106.3	35.4		
	208	VORO			0012.0	0016.0		200.0D			
	2695	MANI	47	GB	0012.0	0017.0	5.3	110.0			QL=6 ST=2 TYP=5
	15400	LEAR	47	GB	0012.3	0012.6	7.2	400.0			QL=6 ST=2 TYP=5
	17000	NOBE	8	S	0012.5	0012.8	3.0	310.0			L
	610	PALE	49	GB	0012.6E	0012.8	3.0D	540.0			QL=2 ST=3 TYP=6
	1415	PALE	47	GB	0012.6E	0012.8	1.0D	89.0			QL=2 ST=3 TYP=5
	8800	PALE	49	GB	0012.6E	0012.8	3.2D	1000.0			QL=2 ST=3 TYP=6
	4995	PALE	47	GB	0012.6E	0012.8	2.9D	480.0			QL=2 ST=3 TYP=5
	15400	PALE	47	GB	0012.6E	0012.8	1.5D	410.0			QL=2 ST=3 TYP=5
	410	PALE	47	GB	0012.6E	0013.0	3.0D	360.0			QL=2 ST=3 TYP=5
	245	PALE	49	GB	0012.6E	0014.8	4.0D	1800.0			QL=2 ST=3 TYP=6
	1000	TYKW	30	PBI	0016.0		20.0	2.0	1.0		
	2000	TYKW	30	PBI	0016.0		20.0	3.0	1.5		
	3750	TYKW	30	PBI	0016.0		20.0	4.0	2.0		
	9400	TYKW	29	PBI	0016.0		15.0	15.0	6.0		
	3750	TYKW	5	S	0019.0	0020.3	4.0	12.0	3.0		
	2000	TYKW	5	S	0019.0	0020.4	3.0	6.0	2.5		
	1000	TYKW	45	C	0019.0	0020.6	3.0	9.0	1.5		
	3750	TYKW	28	PRE	0054.0	0128.0	54.0	5.0	2.0		
	2000	TYKW	28	PRE	0100.0	0147.0	47.0	3.0	1.5		
	3750	TYKW	45	C	0102.0	0102.7	3.0	7.0	2.0		
	2000	TYKW	45	C	0102.0	0104.1	3.0	4.0	1.0		
	2000	TYKW	5	S	0118.0	0120.0	3.0	18.0	4.0		
	3750	TYKW	5	S	0119.0	0120.2	3.0	2.0	.7		
	610	LEAR	8	S	0119.6	0120.1	1.0	5.0			QL=6 ST=2 TYP=3
	1415	LEAR	47	GB	0119.8	0120.0	.8	71.0			QL=6 ST=2 TYP=5
	1415	PALE	47	GB	0119.8	0120.0	.7	58.0			QL=6 ST=2 TYP=5
	1000	TYKW	5	S	0119.8	0120.1	1.0	21.0	8.0		
	1000	TYKW	21	GRF	0140.0	0235.0	180.0	3.0	1.5		
	2840	PEKG	4	S/F	0143.0	0150.8	11.0	117.6	14.2		
	2000	TYKW	45	C	0147.0	0150.9	7.0	79.0	16.0		
	3750	TYKW	45	C	0148.0	0150.6	5.0	91.0	27.0		
	1000	TYKW	45	C	0148.0	0151.1	5.0	15.0	5.0		
	9400	TYKW	45	C	0149.0	0150.3	3.0	111.0	17.0		RAIN
	9395	PEKG	3	S	0149.0	0150.3	3.0	80.0	15.2		
	1415	MANI	3	S	0149.0	0151.0	3.5	27.0	9.0		
	4995	MANI	3	S	0149.0	0151.0	3.1	104.7	34.9		
	4995	LEAR	47	GB	0149.3	0150.5	5.8	96.0			QL=6 ST=2 TYP=5
	2695	LEAR	47	GB	0149.3	0150.8	5.8	119.0			QL=6 ST=2 TYP=5
	4995	PALE	47	GB	0149.5	0150.5	2.8	87.0			QL=6 ST=2 TYP=5
	1415	LEAR	47	GB	0149.5	0150.6	5.6	51.0			QL=6 ST=2 TYP=5
	8800	LEAR	47	GB	0149.8	0150.1	5.3	110.0			QL=6 ST=2 TYP=5
	15400	LEAR	4	S/F	0149.8	0150.5	5.3	24.0			QL=6 ST=2 TYP=3
	610	LEAR	4	S/F	0150.0	0150.8	2.5	7.0			QL=6 ST=2 TYP=3
	8800	PALE	47	GB	0150.1	0150.3	1.2	139.0			QL=6 ST=2 TYP=5
	245	LEAR	8	S	0150.3	0150.5	.3	36.0			QL=6 ST=2 TYP=3
	1415	PALE	8	S	0150.3	0150.8	.8	37.0			QL=6 ST=2 TYP=3
	15400	PALE	8	S	0150.5	0150.6	.5	24.0			QL=6 ST=2 TYP=3
	9400	TYKW	29	PBI	0152.0		65.0	14.0	7.0		
	9395	PEKG	29	PBI	0152.0		20.2	13.6	5.3		
	3750	TYKW	29	PBI	0153.0		71.0	17.0	8.0		
	1000	TYKW	29	PBI	0153.0		25.0	2.0	1.0		
	2000	TYKW	30	PBI	0154.0		160.0	9.0	4.0		
	2840	PEKG	29	PBI	0154.0	0200.0	39.0D	16.9	16.0U		
	2000	TYKW	20	GRF	0156.0	0210.0	50.0	5.0	2.0		
	200	HIRA	45	C	0203.8	0204.2	1.0	240.0	90.0		SR
	3750	TYKW	5	S	0305.0	0306.8	4.0	3.0	1.0		
	3750	TYKW	20	GRF	0315.0	0400.0	120.0	3.0	1.5		
	410	LEAR	8	S	0426.6	0426.8	.2	13.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0427.0	0427.1	.1	27.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0559.6	0559.8	.2	10.0			QL=6 ST=2 TYP=3
	245	LEAR	47	GB	0659.5	0659.6	.3	160.0			QL=6 ST=2 TYP=5
	410	LEAR	8	S	0659.8	0700.0	.3	13.0			QL=6 ST=2 TYP=3
	610	LEAR	8	S	0659.8	0700.0	.3	8.0			QL=6 ST=2 TYP=3
	200	HIRA	46	C	0700.2	0700.8	1.1	210.0	145.0		SR
	808	ONDR	46	C	0830.0	0834.0	9.0	52.0	9.0		
	410	LEAR	8	S	0848.1	0849.0	1.2	13.0			QL=6 ST=2 TYP=3

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

DECEMBER 1982

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
26	950	GORK	21	GRF	0904.2	0921.0	48.0	5.0			
	650	GORK	21	GRF	0914.4	0919.6	30.5	3.0			
	260	ONDR	46	C	0928.0	0935.0U	13.0	172.0D	71.0D		
	430	KRAK	47	GB	0928.5	0932.2	8.0	530.0D	40.0U		
	3100	BERN	3	S	0928.6	0933.2	12.0	72.0			
	5200	BERN	4	S/F	0928.6	0933.2	12.0	144.0			
	11800	BERN	4	S/F	0928.6	0933.3	30.0U	108.0			
	950	GORK	4	S/F	0928.8	0933.0	9.5	37.0			
	650	GORK	4	S/F	0928.8	0933.2	8.6	85.0D			
	100	GORK	46	C	0929.0	0933.0U	7.5	1830.0D			
	536	ONDR	46	C	0929.0	0933.0	12.0	66.0	45.0		
	810	KRAK	45	C	0929.0	0933.0	9.0	380.0	16.0		
	930	BORD	46	C	0929.0	0933.1	9.0	253.0	19.0		
	100	GORK			0929.0	0935.2		1830.0D			
	100	GORK			0929.0	0936.0		1840.0D			
	6100	KISV			0929.2	0932.2		51.0			
	6100	KISV	45	C	0929.2	0933.3	17.0	81.0			
	9100	GORK	21	GRF	0929.2	0936.8	34.1	26.0			
	2695	ATHN	4	S/F	0929.3	0933.3	9.0	46.0			QL=2 ST=2 TYP=3
	200	GORK	46	C	0929.4	0932.7	13.4	50.0D			
	200	GORK			0929.4	0935.5		50.0D			
	9500	POTS	4	S/F	0929.5	0933.2	28.0	87.0			
	3000	POTS	4	S/F	0929.5	0933.3	11.0	53.0			
	1470	POTS	45	C	0929.5	0933.7	11.0	38.0			
	410	LEAR	47	GB	0929.6	0933.1	3.5D	239.0			QL=6 ST=3 TYP=5
	4995	ATHN	47	GB	0929.6	0933.3	8.9	92.0			QL=2 ST=2 TYP=5
	15000	KISV	46	C	0930.0	0932.2	18.0	35.0			
	15000	KISV			0930.0	0933.3		68.0			
	15000	KISV			0930.0	0933.8		65.0			
	204	IZMI	41	F	0930.0	0938.5	13.0	3400.0			
	4995	LEAR	47	GB	0930.1	0933.1	7.0	100.0			QL=6 ST=2 TYP=5
	8800	ATHN	47	GB	0930.3	0933.3	9.7	90.0			QL=6 ST=2 TYP=5
	245	LEAR	49	GB	0930.3	0934.6	11.7	1500.0			QL=6 ST=3 TYP=6
	610	LEAR	47	GB	0930.6	0933.0	6.4	270.0			QL=6 ST=2 TYP=5
	8800	LEAR	47	GB	0930.8	0933.1	10.5	119.0			QL=6 ST=2 TYP=5
	2695	LEAR	47	GB	0931.0	0933.1	9.1	53.0			QL=6 ST=2 TYP=5
	3000	IZMI	5	S	0931.0	0934.0	6.0	40.0	20.0		
	1415	ATHN	4	S/F	0931.3	0933.3	5.8	41.0			QL=6 ST=2 TYP=3
	9100	GORK	4	S/F	0931.3	0933.3	5.2	86.0			
	2950	GORK	4	S/F	0931.5	0933.2	2.9	35.0			
	1415	LEAR	47	GB	0931.8	0933.3	5.0	58.0			QL=6 ST=2 TYP=5
	234	POTS	41	F	0932.0	0934.7	4.7	1100.0	100.0		III
	113	POTS	4	S/F	0932.5	0933.1	4.0	1300.0	75.0		III
	15400	LEAR	4	S/F	0932.5	0933.1	3.5	46.0			QL=6 ST=2 TYP=3
	2650	DWIN	3	S	0933.0	0933.0	2.0	50.0	30.0		
	2950	GORK	23	GRF	0935.6	0936.0	99.7	17.7			
	15000	KISV	2	S/F	0954.2	0955.7	6.0	41.0			
	9500	POTS	42	SER	0954.2	0955.7	8.8	17.0			
	8800	ATHN	4	S/F	0954.3	0955.6	3.0	20.0			QL=6 ST=2 TYP=3
	6100	KISV	2	S/F	0955.0	0955.6	2.5	7.0			
	650	GORK	2	S/F	0955.1	0955.5	.9	5.6			
	100	GORK	8	S	0955.2	0955.7	1.1	1830.0D			
	2695	ATHN	8	S	0955.3	0955.6	1.3	11.0			QL=2 ST=2 TYP=3
	1415	ATHN	8	S	0955.3	0955.6	1.0	46.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0955.3	0955.6	.7	26.0			QL=6 ST=2 TYP=3
	113	POTS	4	S/F	0955.3	0955.6	1.2	840.0	200.0		III
	3000	POTS	42	SER	0955.3	0955.9	7.7	18.0			
	1470	POTS	42	SER	0955.3	0956.0	7.7	23.0			
	9100	GORK	2	S/F	0955.4	0955.6	.8	16.0			
	930	BORD	41	F	0955.4	0957.0	1.6	18.0	2.0		
	1415	LEAR	47	GB	0955.5	0955.6	.3	50.0			QL=6 ST=2 TYP=5
	2950	GORK	2	S/F	0955.5	0955.9	.9	16.1			
	6100	KISV	2	S/F	1039.0	1040.2	5.0	18.0			
	536	ONDR	46	C	1039.0	1040.5	2.0	29.0	14.0		
	3100	BERN	3	S	1039.4	1039.9	7.0	22.0			
	11800	BERN	3	S	1039.4	1040.0	7.0	75.0			
	19600	BERN	3	S	1039.4	1040.0	7.0	34.0			
	950	GORK	4	S/F	1039.6	1039.9	1.5	12.0			
	15000	KISV	1	S	1039.6	1040.0	1.0	43.0			
	3000	POTS	4	S/F	1039.6	1040.0	1.3	13.0			
	810	KRAK	2	S/F	1039.6	1040.2	1.5	55.0	5.0		

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
26	930	BORD	46	C	1039.6	1040.4	1.0	33.0	4.0		
	9100	GORK	4	S/F	1039.7	1040.1	3.7	49.0			
	430	KRAK	2	S/F	1039.7	1040.3	1.0	107.0	18.0		
	650	GORK	4	S/F	1039.7	1040.4	1.2	45.0			
	2950	GORK	1	S	1039.8	1040.0	1.0	16.1			
	9500	POTS	4	S/F	1039.8	1040.1	2.7	37.0			
	410	LEAR	8	S	1039.8	1040.1	.8	30.0			QL=6 ST=2 TYP=3
	15400	LEAR	8	S	1039.8	1040.1	.3	45.0			QL=6 ST=2 TYP=3
	610	LEAR	47	GB	1039.8	1040.3	.8	51.0			QL=6 ST=2 TYP=5
	536	ONDR	8	S	1116.5	1116.5	.1	11.0			
	930	BORD	41	F	1132.4	1133.6	1.4	20.0	2.0		
	1470	POTS	4	S/F	1132.5	1133.1	1.5	14.0			
	9400	HUAN	21	GRF	1140.1	1204.7	39.7	8.4	4.6		0
	6100	KISV	1	S	1142.0	1144.0	3.0	7.0			
	234	POTS	4	S/F	1143.9	1144.0	.1	825.0	160.0		III
	113	POTS	4	S/F	1143.9	1144.0	1.0	1800.0	400.0		III
	9500	POTS	3	S	1156.0	1159.8	4.5	14.0			
	6100	KISV	1	S	1159.0	1159.8	2.0	8.0			
	9400	HUAN	1	S	1159.0	1159.8	2.2	9.1	5.4		L
	930	BORD	41	F	1159.4	1159.8	1.0	13.0	2.0		
	536	ONDR	8	S	1159.5	1159.5	.1	11.0			
	810	KRAK	8	S	1200.2	1200.2	.1	10.0			
	536	ONDR	8	S	1215.3	1215.3	.1	6.0			
	2800	OTTA	21	GRF	1420.0	1503.0	70.0D	7.4			
	410	SGMR	47	GB	1433.1	1433.6	.9	130.0			QL=6 ST=2 TYP=5
	245	SGMR	47	GB	1433.6	1433.6	1.0	360.0			QL=6 ST=2 TYP=5
	610	SGMR	8	S	1433.6	1433.6	.2	35.0			QL=6 ST=2 TYP=3
	9400	HUAN	21	GRF	1500.1	1515.0	27.1	14.0	7.3		L
	2800	OTTA	8	S	1501.0	1501.3	.8	10.2			
	245	SGMR	49	GB	1501.1	1501.3	18.7	189.0			QL=6 ST=2 TYP=6
	930	BORD	41	F	1501.1	1506.6	10.0	59.0	3.0		
	410	SGMR	47	GB	1501.1	1506.6	13.7	300.0			QL=6 ST=2 TYP=5
	610	SGMR	47	GB	1501.1	1506.6	13.7	200.0			QL=6 ST=2 TYP=5
	4995	SGMR	8	S	1502.1	1502.6	.7	17.0			QL=6 ST=2 TYP=3
	2695	SGMR	8	S	1503.1	1503.3	.5	13.0			QL=6 ST=2 TYP=3
	8800	SGMR	47	GB	1506.1	1508.5	8.7	49.0			QL=6 ST=2 TYP=5
	2800	OTTA	46F	C	1507.5	1508.0	7.0	18.8	5.6		
	9400	HUAN	3	S	1508.2	1510.2	5.0	26.6	18.1		L
	410	PALE	8	S	1824.1	1824.3	.5	46.0			QL=6 ST=2 TYP=3
	9400	HUAN	20	GRF	1835.1	1839.6	16.8	7.0	1.5		0
	2800	OTTA	1	S	2027.5	2029.0	8.0	2.2	1.1		
	245	LEAR	8	S	2204.0	2204.1	.1	25.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	2204.0	2204.1	.8	30.0			QL=6 ST=2 TYP=3
	410	PALE	8	S	2204.1	2204.3	.2	20.0			QL=6 ST=2 TYP=3
	15400	LEAR	8	S	2255.3	2255.8	1.3	11.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	2258.0	2258.3	.6	15.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	2258.1	2258.3	.2	5.0			QL=6 ST=2 TYP=3
	2000	TYKW	20	GRF	2330.0	2350.0	50.0	2.0	1.0		
27	208	VORO	44	NS	0000.0E		240.0D		51.0		
	221	ABST	44	NS	0600.0E	0647.2	180.0D	12.0			
	200	GORK	44	NS	0627.0E		327.0D		35.0		
	100	GORK	44	NS	0630.0E		324.0D		80.0		
	204	IZMI	44	NS	0700.0E		300.0D	100.0			
	127	TORN	44	NS	0740.0E		380.0D		381.0		V=0
	260	ONDR	44	NS	0830.0E		317.0D	50.0			
	245	SGMR	43	NS	1237.0	1843.8	490.0D	300.0			QL=6 ST=2 TYP=1
	245	PALE	43	NS	1730.0	0306.8	595.0D	490.0			QL=6 ST=2 TYP=1
	200	HIRA	44	NS	2147.0E	0007.0	580.0D	115.0	65.0		MR
	100	HIRA	44	NS	2147.0E	0115.0	580.0D	1500.0	890.0		SR
	245	LEAR	43	NS	2159.0	0036.3	772.0D	160.0			QL=6 ST=2 TYP=1
	3750	TYKW	5	S	0019.2	0019.5	2.0	5.0	2.0		
	15400	PALE	8	S	0024.3	0025.1	.8	40.0			QL=6 ST=2 TYP=3
	2000	TYKW	20	GRF	0035.0	0055.0	50.0	2.0	1.0		
	3750	TYKW	21	GRF	0037.0	0047.0	85.0	5.0	2.0		
	500	HIRA	8	S	0116.1	0116.2	.4	15.0	10.0		0
	245	LEAR	47	GB	0116.1	0116.3	.5	260.0			QL=6 ST=2 TYP=5
	410	LEAR	8	S	0116.1	0116.3	.7	15.0			QL=6 ST=2 TYP=3
	610	LEAR	8	S	0116.1	0116.3	.9	11.0			QL=6 ST=2 TYP=3
	245	LEAR	47	GB	0119.6	0119.6	.2	90.0			QL=6 ST=2 TYP=5
	410	LEAR	8	S	0119.6	0119.6	.2	18.0			QL=6 ST=2 TYP=3

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
27	610	LEAR	8	S	0119.6	0119.6	.2	27.0			QL=6 ST=2 TYP=3
	100	HIRA	46	C	0144.3	0144.7	.9	280.0	210.0		SR
	3750	TYKW	5	S	0147.0	0148.8	3.5	8.0	2.5		
	500	HIRA	7	C	0147.1	0148.8	2.0	15.0	6.0		0
	410	LEAR	8	S	0147.8	0147.8	1.2	30.0			QL=6 ST=2 TYP=3
	410	PALE	8	S	0147.8	0149.1	1.3	48.0			QL=6 ST=2 TYP=3
	9400	TYKW	5	S	0148.0	0148.2	2.0	10.0	2.5		
	2000	TYKW	5	S	0148.0	0148.9	2.0	10.0	2.0		
	1000	TYKW	45	C	0148.0	0149.1	2.0	6.0	1.5		
	1415	LEAR	4	S/F	0148.0	0148.8	3.5	18.0			QL=6 ST=2 TYP=3
	15400	LEAR	4	S/F	0148.0	0148.8	3.6	9.0			QL=6 ST=2 TYP=3
	4995	LEAR	4	S/F	0148.0	0148.8	3.5	11.0			QL=6 ST=2 TYP=3
	9395	PEKG	1	S	0148.0	0149.0	2.0	6.1	3.6		
	245	LEAR	4	S/F	0148.3	0148.8	3.0	47.0			QL=6 ST=2 TYP=3
	4995	PALE	8	S	0148.6	0148.8	.4	11.0			QL=6 ST=2 TYP=3
	1000	TYKW	30	PBI	0151.0		30.0	1.0	.5		
	1000	TYKW	45	C	0159.0	0159.8	2.0	14.0	2.0		
	2000	TYKW	45	C	0159.0	0200.0	2.0	5.0	1.0		
	3750	TYKW	45	C	0159.0	0200.0	2.0	5.0	.7		
	410	LEAR	47	GB	0159.3	0159.6	1.0	58.0			QL=6 ST=2 TYP=5
	610	LEAR	47	GB	0159.3	0200.0	.7D	66.0			QL=6 ST=2 TYP=5
	500	HIRA	7	C	0159.3	0200.0	1.0	35.0	25.0		WR
	245	LEAR	49	GB	0159.5	0159.6	.8	900.0			QL=6 ST=2 TYP=6
	410	PALE	47	GB	0159.5	0159.6	.8	76.0			QL=6 ST=2 TYP=5
	245	PALE	49	GB	0159.5	0159.8	.8	970.0			QL=6 ST=2 TYP=6
	610	PALE	8	S	0159.5	0200.0	.5D	49.0			QL=6 ST=2 TYP=3
	9400	TYKW	5	S	0200.0	0200.2	1.0	4.0	1.5		
	1000	TYKW	5	S	0203.4	0203.6	.5	5.0	1.5		
	3750	TYKW	21	GRF	0235.0	0251.0	60.0	2.0	1.0		
	100	HIRA	46	C	0312.5	0316.6	5.7	540.0	220.0		MR
	245	LEAR	47	GB	0312.6	0314.0	1.5	92.0			QL=6 ST=2 TYP=5
	4995	LEAR	4	S/F	0312.8	0314.0	3.5	8.0			QL=6 ST=2 TYP=3
	2000	TYKW	45	C	0313.0	0313.2	5.0	10.0	1.0		
	3750	TYKW	45	C	0313.0	0313.4	8.0	4.0	1.5		
	9400	TYKW	45	C	0313.0	0313.4	6.0	9.0	3.0		
	1000	TYKW	45	C	0313.0	0316.6	8.0	6.0	1.0		
	500	HIRA	7	C	0313.0	0314.6	3.6	7.0	2.0		MR
	8800	LEAR	4	S/F	0313.3	0314.0	2.5	13.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0433.8	0434.0	.3	46.0			QL=6 ST=2 TYP=3
	245	LEAR	47	GB	0433.8	0434.5	1.2	90.0			QL=6 ST=2 TYP=5
	9395	PEKG	46	C	0522.0	0524.0	11.0	82.5	11.0		
	9395	PEKG			0522.0	0528.3		62.9			
	2840	PEKG	46	C	0523.0	0524.5	10.0	17.2			
	2840	PEKG			0523.0	0528.4		22.7	13.2		
	100	HIRA	48	C	0523.4	0523.8	3.5	7600.0	2800.0		0
	2000	TYKW	45	C	0523.5	0524.0	8.0	25.0	6.0		
	9400	TYKW	45	C	0523.5	0524.0	6.5	81.0	28.0		
	1000	TYKW	47	GB	0523.5	0524.3	8.0	754.0	50.0		
	3750	TYKW	45	C	0523.5	0524.4	6.5	36.0	12.0		
	3750	TYKW			0523.5	0528.2		34.0			
	9400	TYKW			0523.5	0528.3		65.0			
	2000	TYKW			0523.5	0528.3		14.0			
	1000	TYKW			0523.5	0529.2		74.0			
	8800	LEAR	47	GB	0523.6	0523.8	8.5	98.0			QL=6 ST=2 TYP=5
	4995	LEAR	47	GB	0523.6	0524.1	6.0	49.0			QL=6 ST=2 TYP=5
	200	HIRA	46	C	0523.7	0524.1	8.0	1140.0	103.0		WR
	500	HIRA	46	C	0523.7	0524.4	7.3	1000.0	100.0		SR
	500	HIRA			0523.7	0527.7		450.0			SR
	200	HIRA			0523.7	0528.2		950.0			0
	1415	LEAR	47	GB	0523.8	0524.0	1.8	390.0			QL=6 ST=2 TYP=5
	410	LEAR	47	GB	0523.8	0524.1	7.5	200.0			QL=6 ST=2 TYP=5
	15400	LEAR	47	GB	0523.8	0524.1	5.5	56.0			QL=6 ST=2 TYP=5
	17000	NOBE	1	S	0523.8	0524.2	8.0	51.0			L
	2695	LEAR	4	S/F	0523.8	0524.3	7.3	39.0			QL=6 ST=2 TYP=3
	610	LEAR	49	GB	0523.8	0524.6	7.7	730.0			QL=6 ST=2 TYP=6
	245	LEAR	47	GB	0523.8	0525.3	9.7	310.0			QL=6 ST=2 TYP=5
	100	HIRA	46	C	0527.2	0527.5	1.6	1400.0	640.0		0
	3750	TYKW	29	PBI	0530.0		50.0	3.0	1.5		
	9400	TYKW	29	PBI	0530.0		10.0	7.0	3.0		
	9100	GORK	1	S	0733.8	0734.1	.8	10.0	5.0		
	6100	KISV	2	S/F	0814.5	0815.5	2.0	11.0			

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
27	245	LEAR	47	GB	0814.6	0815.3	.9	79.0			QL=6 ST=2 TYP=5
	950	GORK	1	S	0814.7	0815.4	1.0	2.0			
	650	GORK	2	S/F	0814.7	0815.7	3.3	4.5			
	9100	GORK	22	GRF	0815.0	0815.5	7.2	18.0			
	15000	KISV	2	S/F	0815.0	0815.5	1.0	12.0			
	810	KRAK	42	SER	0815.0	0820.8	8.2	15.0			
	930	BORD	41	F	0815.2	0815.4	.7	17.0	2.0		
	8800	LEAR	8	S	0815.3	0815.3	.3	20.0			QL=6 ST=2 TYP=3
	15400	LEAR	8	S	0815.3	0815.3	.3	15.0			QL=6 ST=2 TYP=3
	430	KRAK	42	SER	0819.0	0820.3	5.2	100.0			
	245	LEAR	47	GB	0819.1	0820.5	4.7	83.0			QL=6 ST=2 TYP=5
	410	LEAR	47	GB	0819.1	0821.1	4.7	72.0			QL=6 ST=2 TYP=5
	610	LEAR	4	S/F	0819.1	0821.3	4.7	49.0			QL=6 ST=2 TYP=3
	930	BORD	41	F	0819.3	0820.3	2.5	37.0	3.0		
	808	ONDR	46	C	1034.0	1037.5	5.0	50.0			
	536	ONDR	8	S	1125.5	1125.5	.1	27.0			
	204	IZMI	41	F	1128.5	1136.2	9.0	1400.0			
	33	UPIC	46	C	1128.7	1137.1	9.9				
	29	UPIC	46	C	1128.8	1137.3	9.5				
	6100	KISV	21	GRF	1129.0	1130.0	19.0	7.0			
	6100	KISV			1129.0	1135.0		14.0			
	9500	POTS	23	GRF	1129.0	1137.3	16.0	21.0			
	930	BORD	42	SER	1129.0	1137.4	9.0	155.0	6.0		
	6100	KISV			1129.0	1137.5		17.0			
	1470	POTS	40	F	1129.0	1137.7	10.0	35.0			
	15000	KISV	2	S/F	1129.5	1129.9	2.5	15.0			
	810	KRAK	42	SER	1129.5	1134.5	9.0	78.0			
	810	KRAK			1129.5	1137.0		150.0			
	234	POTS	42	SER	1129.6	1129.7	89.5	520.0	30.0		III
	650	GORK	46	C	1129.6	1134.8U	9.8	70.0D			
	650	GORK	46	C	1129.6	1137.4		70.0			
	8800	ATHN	4	S/F	1129.6	1137.5	11.2	11.0			QL=6 ST=2 TYP=3
	430	KRAK	46	C	1129.8	1133.5	8.0	600.0D	5.0		
	430	KRAK			1129.8	1134.5		600.0D			
	536	ONDR	46	C	1131.0	1135.5	9.0	169.0			
	260	ONDR	46	C	1133.0	1135.0	6.0	118.0	70.0		
	950	GORK	46	C	1133.2	1134.8	5.6	35.0			
	950	GORK			1133.2	1137.4		92.0			
	15000	KISV	2	S/F	1134.0	1135.0	2.5	7.0			
	4995	ATHN	4	S/F	1134.1	1137.5	6.7	11.0			QL=2 ST=2 TYP=3
	2695	ATHN	47	GB	1134.3	1137.5	4.7	95.0			QL=2 ST=2 TYP=5
	1415	ATHN	4	S/F	1134.3	1137.6	4.7	46.0			QL=6 ST=2 TYP=3
	200	GORK	4	S/F	1135.6	1137.5	3.5	220.0D			
	3100	CRIM	1	S	1136.0	1136.2	1.0	100.0	33.0		
	3000	POTS	8	S	1136.8	1136.8	.9	68.0			
	430	KRAK	42	SER	1140.8	1143.5	3.7	20.0			
	15000	KISV	2	S/F	1142.5	1143.5	1.5	12.0			
	536	ONDR	8	S	1147.7	1147.7	.1	18.0			
	536	ONDR	42	SER	1232.0	1232.5	6.0	42.0			
	430	KRAK	42	SER	1235.7	1249.2	25.0	155.0			
	2800	OTTA	21	GRF	1420.0	1450.0	140.0D	6.2			
	9400	HUAN	1	S	1426.5	1427.4	3.0	8.1	5.2		0
	2800	OTTA	1	S	1427.0	1427.3	1.0	4.0	2.0		
	2800	OTTA	20	GRF	1710.0	1800.0	70.0	2.8	1.8		
	245	SGMR	47	GB	1837.8	1838.0	1.5	150.0			QL=6 ST=2 TYP=5
	410	SGMR	47	GB	1837.8	1838.1	1.3	92.0			QL=6 ST=2 TYP=5
	610	SGMR	8	S	1838.0	1838.1	.6	28.0			QL=6 ST=2 TYP=3
	245	PALE	47	GB	1922.1	1922.1	.4	96.0			QL=6 ST=2 TYP=5
	2800	OTTA	8	S	1947.8	1948.0	.4	2.0	1.0		
	9400	HUAN	2	S/F	2020.1	2021.0	2.7	7.3	3.3		0
	2800	OTTA	3	S	2021.0	2021.1	1.0	10.0	3.8		
	245	PALE	47	GB	2037.3	2037.5	.5	87.0			QL=6 ST=2 TYP=5
	245	PALE	47	GB	2050.6	2051.6	1.5	440.0			QL=6 ST=2 TYP=5
	245	PALE	8	S	2102.3	2102.6	.7	48.0			QL=6 ST=2 TYP=3
	245	PALE	47	GB	2115.0	2115.1	.5	50.0			QL=6 ST=2 TYP=5
	2695	PENT	1	S	2216.0	2217.0	3.0	3.6	1.2		
	100	HIRA	46	C	2235.8	2235.9	.9	10000.0D	2450.0D		
	245	LEAR	47	GB	2236.0	2236.1	.8	139.0			QL=6 ST=2 TYP=5
	245	LEAR	47	GB	2304.1	2305.3	1.5	72.0			QL=6 ST=2 TYP=5
	3750	TYKW	20	GRF	2325.0	2345.0	50.0	2.0	1.0		
	9400	TYKW	20	GRF	2330.0	2345.0	40.0	4.0	2.0		

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
27	245	LEAR	47	GB	2331.5	2331.6	.1	300.0			QL=6 ST=2 TYP=5
	245	LEAR	47	GB	2338.8	2338.8	.3	139.0			QL=6 ST=2 TYP=5
	245	PALE	47	GB	2338.8	2339.1	.7	219.0			QL=6 ST=2 TYP=5
	410	LEAR	8	S	2338.8	2339.1	.5	13.0			QL=6 ST=2 TYP=3
28	208	VORO	44	NS	0000.0E		240.0D	37.0			
	100	GORK	44	NS	0630.0E		324.0D		65.0		
	200	GORK	44	NS	0630.0E		321.0D		5.0		
	260	ONDR	44	NS	0820.0E		340.0D				
	127	TORN	44	NS	0820.0E	0835.0	370.0D	140.0	20.2		V=1
	100	HIRA	44	NS	2147.0E	0200.0	580.0D	300.0	175.0		SR
	200	HIRA	44	NS	2147.0E	0545.0	580.0D	55.0	20.0		MR
	245	LEAR	43	NS	2159.0	0557.1	773.0D	119.0			QL=6 ST=2 TYP=1
	410	LEAR	8	S	0028.1	0028.6	1.7	44.0			QL=6 ST=2 TYP=3
	245	LEAR	47	GB	0028.3	0028.3	1.5	110.0			QL=6 ST=2 TYP=5
	245	PALE	47	GB	0028.3	0028.5	1.5	130.0			QL=6 ST=2 TYP=5
	500	HIRA	42	SER	0028.3	0032.7	5.3	28.0			MR
	410	PALE	47	GB	0028.5	0028.6	1.3	50.0			QL=6 ST=2 TYP=5
	245	LEAR	8	S	0032.6	0032.6	.2	43.0			QL=6 ST=2 TYP=3
	610	LEAR	8	S	0032.6	0032.8	.9	22.0			QL=6 ST=2 TYP=3
	610	PALE	8	S	0032.6	0033.0	.5	26.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0032.6	0033.0	.9	39.0			QL=6 ST=2 TYP=3
	410	PALE	8	S	0032.8	0033.0	.5	28.0			QL=6 ST=2 TYP=3
	2000	TYKW	21	GRF	0100.0	0140.0	105.0	2.0	1.0		
	9400	TYKW	20	GRF	0125.0	0143.0	90.0	4.0	2.0		
	3750	TYKW	20	GRF	0130.0	0205.0	80.0	4.0	2.0		
	1000	TYKW	20	GRF	0155.0	0205.0	35.0	2.0	1.0		
	2000	TYKW	20	GRF	0155.0	0210.0	35.0	3.0	1.5		
	410	LEAR	8	S	0249.8	0250.0	.3	20.0			QL=6 ST=2 TYP=3
	410	PALE	8	S	0249.8	0250.0	.3	28.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0249.8	0250.8	1.7	20.0			QL=6 ST=2 TYP=3
	200	HIRA	42	SER	0257.6	0303.1	7.0	1350.0			MR
	245	LEAR	49	GB	0258.1	0258.6	1.5	520.0			QL=6 ST=2 TYP=6
	245	PALE	49	GB	0258.3	0258.6	1.2	700.0			QL=6 ST=2 TYP=6
	410	LEAR	47	GB	0258.5	0258.6	.1	58.0			QL=6 ST=2 TYP=5
	410	PALE	8	S	0258.6	0258.6	.2	39.0			QL=6 ST=2 TYP=3
	245	LEAR	49	GB	0302.8	0303.1	2.2	630.0			QL=6 ST=2 TYP=6
	245	PALE	49	GB	0303.1	0303.3	.7	820.0			QL=6 ST=2 TYP=6
	410	LEAR	8	S	0303.1	0305.0	2.0	34.0			QL=6 ST=2 TYP=3
	410	PALE	47	GB	0304.6	0305.1	2.7	51.0			QL=6 ST=2 TYP=5
	500	HIRA	42	SER	0304.6	0306.7	6.0	500.0			MR
	3750	TYKW	45	C	0305.0	0306.8	7.0	7.0	2.0		
	1000	TYKW	45	C	0305.0	0307.2	3.0	11.0	2.5		
	245	LEAR	47	GB	0306.3	0306.8	.7	450.0			QL=6 ST=2 TYP=5
	410	LEAR	47	GB	0306.8	0307.0	.8	95.0			QL=6 ST=2 TYP=5
	1415	LEAR	47	GB	0306.8	0307.0	.8	50.0			QL=6 ST=2 TYP=5
	1415	PALE	8	S	0306.8	0307.1	.5	42.0			QL=6 ST=2 TYP=3
	410	PALE	47	GB	0307.3	0307.3	.3	83.0			QL=6 ST=2 TYP=5
	2000	TYKW	5	S	0308.0	0309.3	5.0	2.0	.7		
	610	LEAR	8	S	0310.3	0310.3	.3	38.0			QL=6 ST=2 TYP=3
	410	LEAR	47	GB	0310.3	0310.5	.3	54.0			QL=6 ST=2 TYP=5
	410	PALE	47	GB	0310.3	0310.5	.5	130.0			QL=6 ST=2 TYP=5
	1415	LEAR	47	GB	0453.1	0453.1	.2	83.0			QL=1 ST=2 TYP=5
	410	LEAR	8	S	0543.8	0544.3	1.0	23.0			QL=6 ST=2 TYP=3
	610	LEAR	8	S	0543.8	0545.6	1.8D	8.0			QL=6 ST=2 TYP=3
	245	LEAR	47	GB	0544.1	0544.3	.7	100.0			QL=6 ST=2 TYP=5
	245	LEAR	47	GB	0618.6	0618.8	.2	56.0			QL=6 ST=2 TYP=5
	430	KRAK	42	SER	0812.5	0842.0	29.5	155.0			
	204	IZMI	41	F	0831.0	0835.0	10.0	1250.0			
	200	GORK	46	C	0831.6	0832.0	4.6	80.0			
	200	GORK			0831.6	0835.6		1060.0			
	6100	KISV	2	S/F	0832.0	0835.9	6.5	5.0			
	113	POTS	4	S/F	0833.8	0834.6	2.6	2200.0	200.0		III
	100	GORK	46	C	0834.5	0834.6	1.3	1980.0D			
	100	GORK			0834.5	0835.4		3745.0			
	245	LEAR	47	GB	0835.0	0835.3	1.1	430.0			QL=6 ST=2 TYP=5
	410	LEAR	8	S	0835.0	0835.3	.8	37.0			QL=6 ST=2 TYP=3
	234	POTS	4	S/F	0835.0	0835.4	1.5	700.0	70.0		III
	650	GORK	2	S/F	0835.0	0835.7	1.6	4.0			
	810	KRAK	8	S	0836.0	0836.0	.1	6.0			
	245	LEAR	8	S	0839.0	0839.6	1.6	39.0			QL=6 ST=2 TYP=3

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
28	410	LEAR	8	S	0839.1	0840.6	1.7	17.0			QL=6 ST=2 TYP=3
	410	LEAR	47	GB	0841.8	0841.8	.3	63.0			QL=6 ST=2 TYP=5
	245	LEAR	47	GB	0842.8	0842.8	.3	169.0			QL=6 ST=2 TYP=5
	3100	CRIM	26	FAL	0850.0	1140.0		14.0			
	200	GORK	8	S	0856.7	0857.0	.8	85.0D			
	245	LEAR	8	S	0856.8	0856.8	.3	30.0			QL=6 ST=2 TYP=3
	204	IZMI	5	S	0856.8	0857.0	.8	200.0	100.0		
	6100	KISV	2	S/F	0925.3	0925.7	1.0	3.0			
	204	IZMI	41	F	1132.0	1134.5	4.0	260.0			
	33	UPIC	42	SER	1132.2	1201.4	29.7				
	29	UPIC	42	SER	1132.2	1201.7	29.7				
	200	GORK	46	C	1132.3	1133.0	4.0	75.0			
	200	GORK			1132.3	1135.5		310.0			
	113	POTS	4	S/F	1201.3	1201.4	.8	1900.0	300.0		III
	234	POTS	4	S/F	1201.3	1201.5	.5	330.0	10.0		III
	430	KRAK	42	SER	1326.8	1335.0	15.0	16.0			
	2800	OTTA	1	S	1557.0	1557.5	1.5	2.4	1.2		
	9400	HUAN	4	S/F	1557.0	1557.3	1.8	20.0	9.6		0
	9400	HUAN	29	PBI	1558.8	1558.8	14.9	8.6	4.4		0
	2800	OTTA	40	F	1725.0	1726.2	3.0	10.2			
	2695	PENT	21	GRF	2040.0	2100.0	65.0	2.6	1.6		
	2800	OTTA	1	S	2044.8	2045.5	2.0	2.4	1.6		
	245	LEAR	4	S/F	2234.5	2237.0	2.6	19.0			QL=6 ST=2 TYP=3
	610	LEAR	4	S/F	2235.8	2237.8	2.3	47.0			QL=6 ST=2 TYP=3
	410	LEAR	47	GB	2236.3	2237.6	1.8	130.0			QL=6 ST=2 TYP=5
	410	PALE	47	GB	2236.3	2237.8	1.8	260.0			QL=6 ST=2 TYP=5
	410	LEAR	8	S	2251.5	2252.0	.8	15.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	2251.8	2252.1	.5	39.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	2338.5	2338.8	.5	10.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	2338.6	2338.6	.2	11.0			QL=6 ST=2 TYP=3
	9400	TYKW	45	C	2344.5	2345.3	1.5	10.0	3.0		
29	208	VORO	44	NS	0000.0E		240.0D		16.0		
	200	GORK	44	NS	0631.0E		322.0D		15.0		
	204	IZMI	44	NS	0700.0E		300.0D	40.0			
	127	TORN	44	NS	0740.0E	0845.4	380.0D	2500.0	45.0		V=1
	29	UPIC	43	NS	0951.1		278.9D				
	33	UPIC	43	NS	0951.2		278.8D				
	245	PALE	43	NS	1732.0	1930.6	592.0	130.0			QL=6 ST=2 TYP=1
	200	HIRA	44	NS	2148.0E	2350.0	580.0D	10.0	5.0		WR
	1415	LEAR	4	S/F	0020.8	0024.3	3.8	29.0			QL=5 ST=2 TYP=3
	245	LEAR	4	S/F	0120.8	0120.8	5.0	39.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0120.8	0120.8	2.0	6.0			QL=6 ST=2 TYP=3
	2000	TYKW	20	GRF	0200.0	0212.0	30.0	3.0	1.5		
	3750	TYKW	20	GRF	0200.0	0220.0	50.0	2.0	1.0		
	245	PALE	8	S	0218.6	0218.8	.5	44.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0244.0	0244.1	.6	27.0			QL=6 ST=2 TYP=3
	9400	TYKW	5	S	0314.0	0314.4	1.0	5.0	1.5		
	100	HIRA	46	C	0350.0	0350.3	1.0	1380.0	410.0		0
	2000	TYKW	20	GRF	0400.0	0430.0	80.0	1.5	.7		
	3750	TYKW	20	GRF	0400.0	0430.0	90.0	3.0	1.5		
	410	LEAR	47	GB	0409.8	0409.8	.3	57.0			QL=6 ST=2 TYP=5
	9395	PEKG	3	S	0512.0	0514.0	5.0	10.7	9.4		
	9400	TYKW	5	S	0512.5	0514.0	7.0	14.0	3.0		
	8800	LEAR	8	S	0512.8	0513.6	1.8	16.0			QL=6 ST=2 TYP=3
	4995	MANI	49	GB	0544.0	0645.0	64.5	890.0			QL=6 ST=2 TYP=6
	100	GORK	41	F	0629.0E	0631.0	29.0D	1665.0D			
	100	GORK			0629.0E	0632.7		1665.0D			
	100	GORK			0629.0E	0647.2		14950.0			
	100	GORK			0629.0E	0654.7		895.0			
	100	GORK			0629.0E	0656.3		1120.0			
	100	HIRA	42	SER	0629.7	0631.0	3.3	1200.0			0
	6100	KISV	47	GB	0630.0	0645.4	15.4U	611.0			
	6100	KISV			0630.0	0645.8		523.0			
	9400	TYKW	28	PRE	0641.0	0643.5	2.5	6.0	2.0		
	6100	KISV	29	PBI	0641.0	0647.0	7.5	120.0			
	8800	ATHN	49	GB	0642.5	0645.3	15.1	1600.0			QL=6 ST=2 TYP=6
	2950	GORK	4	S/F	0642.7	0645.0	11.1	580.0			
	3750	TYKW	47	GB	0643.0	0645.2	7.0	720.0	170.0		
	2840	PEKG	47	GB	0643.0	0645.0	6.0	691.0			
	2840	PEKG			0643.0	0645.2		993.0			

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29	9100	GORK	47	GB	0643.0	0645.2	4.9	1800.0			
	9395	PEKG	47	GB	0643.0	0645.2	7.0	1685.0			
	4995	LEAR	49	GB	0643.5	0644.5	10.0	800.0			QL=6 ST=2 TYP=7
	4995	ATHN	49	GB	0643.5	0644.6	14.1	1100.0			QL=2 ST=2 TYP=6
	8800	LEAR	49	GB	0643.5	0645.1	13.3	2100.0			QL=6 ST=2 TYP=7
	9400	TYKW	47	GB	0643.5	0645.2	6.5	2010.0	460.0		
	2695	ATHN	49	GB	0643.8	0645.1	13.8	560.0			QL=2 ST=2 TYP=6
	2695	LEAR	49	GB	0643.8	0645.1	9.3	670.0			QL=6 ST=2 TYP=7
	15400	LEAR	49	GB	0643.8	0645.1	16.3	5000.0			QL=6 ST=2 TYP=7
	2000	TYKW	47	GB	0644.0	0645.2	10.0	510.0	110.0		
	2000	TYKW	47	GB	0644.0	0645.4	10.0	975.0	180.0		
	500	HIRA	48	C	0644.0	0644.1	42.0D	14000.0	250.0		WL
	4995	MANI	47	GB	0644.0	0645.0	4.5	889.7	296.6		
	15000	KISV	47	GB	0644.0	0645.0U	5.5	346.0D			
	17000	NOBE	47	GB	0644.0	0645.2	3.1	2580.0			R
	1415	LEAR	49	GB	0644.1	0645.0	19.7	1000.0			QL=6 ST=2 TYP=7
	1415	ATHN	49	GB	0644.1	0645.1	13.5	710.0			QL=6 ST=2 TYP=6
	410	LEAR	49	GB	0644.1	0645.3	61.9	18999.0			QL=6 ST=2 TYP=7
	200	HIRA	48	C	0644.2		9.3	70000.0D	1290.0D		0
	950	GORK	47	GB	0644.2	0645.1	6.0	630.0			
	650	GORK	47	GB	0644.2	0645.4	7.1	496.0			
	650	GORK			0644.2	0648.5		254.0			
	610	LEAR	49	GB	0644.3	0644.6	27.8	4900.0			QL=6 ST=2 TYP=7
	1415	MANI	47	GB	0644.5	0645.0	10.5	400.0			QL=6 ST=2 TYP=5
	1415	MANI	3	S	0644.5	0645.0	10.5	400.0D	133.3D		
	3100	CRIM	3	S	0644.5	0645.6	1.0	790.0	265.0		
	245	LEAR	49	GB	0644.5	0646.1	49.5	43999.0			QL=6 ST=2 TYP=7
	200	GORK	47	GB	0644.5	0647.2	7.1	3700.0D			
	100	HIRA	48	C	0646.0	0647.1U	11.2	10000.0D	3800.0D		
	17000	NOBE	29	PBI	0647.1	0648.3	10.0	56.0			0
	9100	GORK	29	PBI	0647.9	0648.0	71.0	60.0			
	15000	KISV	29	PBI	0649.5	0649.5	18.0	75.0			
	9400	TYKW	29	PBI	0650.0		15.0	38.0	14.0		
	3750	TYKW	30	PBI	0650.0		20.0	9.0	3.0		
	950	GORK	30	PBI	0650.2	0650.3	185.4	16.0			
	3750	TYKW	45	C	0651.0	0653.0	3.5	11.0	4.0		
	650	GORK	30	PBI	0651.3	0651.4	99.6	84.0			
	2000	TYKW	29	PBI	0654.0		25.0	10.0	5.0		
	1000	TYKW	29	PBI	0654.0		15.0D	22.0	18.0D		
	204	IZMI	7	C	0654.0	0657.0	6.0	350.0	150.0		
	3100	CRIM	29	PBI	0654.5	0655.6	15.0	8.0	3.0		
	200	HIRA			0655.4	0658.3		120.0			0
	200	HIRA	46	C	0655.4	0709.0	30.0D	250.0	46.0		WR
	650	GORK	46	C	0712.9	0715.7	32.1	13.0			
	650	GORK			0712.9	0721.5		19.0			
	650	GORK			0712.9	0724.7		21.0			
	950	GORK	1	S	0713.8	0714.1	.6	5.0			
	6100	KISV	23	GRF	0833.5	0835.0	4.5	3.0			
	245	LEAR	47	GB	0844.8	0844.8	1.0	110.0			QL=6 ST=2 TYP=5
	410	LEAR	8	S	0644.8	0845.0	.7	11.0			QL=6 ST=2 TYP=3
	113	POTS	42	SER	0845.0	0845.0	16.0	4200.0	10.0		III
	234	POTS	42	SER	0845.0	0900.4	16.0	825.0	4.0		III
	6100	KISV	21	GRF	0854.0	0855.5	12.0	5.0			
	6100	KISV			0854.0	0900.5		5.0			
	650	GORK	4	S/F	0859.6	0900.4	1.0	32.0			
	245	LEAR	49	GB	0900.1	0900.3	.5	510.0			QL=6 ST=2 TYP=6
	410	LEAR	47	GB	0900.1	0900.3	.5	54.0			QL=6 ST=2 TYP=5
	610	LEAR	8	S	0900.1	0900.3	.5	31.0			QL=6 ST=2 TYP=3
	810	KRAK	42	SER	0931.5	0933.5	2.2	44.0			
	430	KRAK	8	S	0933.1	0933.2	.2	13.0			
	113	POTS	4	S/F	0951.0	0951.2	.9	1300.0	200.0		III
	200	GORK	4	S/F	0951.0	0951.3	1.2	70.0D			
	100	GORK	8	S	0951.0	0951.3	.6	1820.0D			
	127	TORN	27	RF	1306.5	1308.6	9.0	2700.0	300.0		
	113	POTS	4	S/F	1306.8	1307.3	4.7	900.0	70.0		III
	430	KRAK	7	C	1309.5	1310.8	1.5	15.0	5.0		
	234	POTS	4	S/F	1310.5	1311.2	1.3	275.0	30.0		III
	2800	OTTA	40	F	1622.2	1627.0	6.0	4.2			
	2800	OTTA	8	S	1645.7	1645.9	.5	6.0	3.0		
	2800	OTTA	1	S	1727.9	1728.0	1.0	7.6	2.0		
	2800	OTTA	1	S	1849.0	1852.0	10.0	2.6	1.3		

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
29	410	PALE	8	S	2040.0	2040.1	.3	30.0			QL=6 ST=2 TYP=3
	410	PALE	8	S	2042.3	2042.6	.5	36.0			QL=6 ST=2 TYP=3
	245	PALE	47	GB	2042.8	2043.1	.5	80.0			QL=6 ST=2 TYP=5
	8800	PALE	8	S	2122.8	2123.6	1.2	40.0			QL=6 ST=2 TYP=3
	410	LEAR	47	GB	2235.8	2236.6	1.0	87.0			QL=6 ST=2 TYP=5
	100	HIRA	41	F	2322.3	2323.8	5.0	310.0			MR
	610	LEAR	47	GB	2346.0	2346.5	3.0	70.0			QL=6 ST=2 TYP=5
	610	PALE	47	GB	2346.3	2346.5	2.8	89.0			QL=6 ST=2 TYP=5
	3750	TYKW	45	C	2347.0	2349.3	5.0	10.0	3.0		
	100	HIRA	46	C	2347.3	2349.3	4.0	220.0	75.0		O
	500	HIRA	7	C	2347.4	2348.3	1.0	20.0	10.0		MR
	1000	TYKW	45	C	2348.0	2349.3	3.00	88.0	10.0		
	2000	TYKW	45	C	2348.0	2349.3	3.0	54.0	5.0		
	1415	LEAR	47	GB	2348.3	2348.3	1.2	50.0			QL=6 ST=2 TYP=5
	1415	PALE	47	GB	2348.3	2348.5	1.3	49.0			QL=6 ST=2 TYP=5
	410	LEAR	8	S	2348.3	2348.8	1.0	27.0			QL=6 ST=2 TYP=3
	4995	LEAR	4	S/F	2348.3	2349.1	3.5	16.0			QL=6 ST=2 TYP=3
	9400	TYKW	45	C	2348.5	2349.3	2.5	9.0	3.0		
	2695	LEAR	4	S/F	2348.8	2349.1	2.5	17.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	2349.1	2349.1	.2	13.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	2349.3	2349.8	.7	19.0			QL=6 ST=2 TYP=3
	2000	TYKW	29	PBI	2351.0		9.0	2.0	1.0		
	3750	TYKW	29	PBI	2352.0		15.0	3.0	1.5		
	245	LEAR	47	GB	2352.5	2352.6	.3	94.0			QL=6 ST=2 TYP=5
	410	LEAR	8	S	2352.6	2352.6	.2	11.0			QL=6 ST=2 TYP=3
	1000	TYKW	45	C	2353.5	2354.3	1.00	3.0	1.0		
30	208	VORO	44	NS	0000.0E		240.00		4.0		
	245	LEAR	43	NS	0354.6	1043.1	417.40	65.0			QL=6 ST=2 TYP=1
	260	ONDR	44	NS	0830.0E		328.00				
	245	PALE	43	NS	1732.0	1743.0	63.0	20.0			QL=6 ST=2 TYP=1
	9400	TYKW	5	S	0025.0	0026.2	4.00	14.0	4.0		
	8800	LEAR	8	S	0025.6	0026.1	.7	18.0			QL=6 ST=2 TYP=3
	15400	LEAR	8	S	0025.8	0027.3	1.50	10.0			QL=6 ST=2 TYP=3
	8800	PALE	8	S	0026.0	0026.1	.3	19.0			QL=6 ST=2 TYP=3
	1000	TYKW	5	S	0138.5	0138.6	.5	4.0	1.0		
	9395	PEKG	46	C	0140.0	0142.8	19.0	292.0	49.4		
	2840	PEKG	46	C	0140.0	0150.3	21.0	50.1			
	2840	PEKG			0140.0	0153.1		106.0	18.3		
	9395	PEKG			0140.0	0153.2		223.0			
	9400	TYKW	45	C	0141.0	0142.8	55.00	345.0	20.0		
	3750	TYKW	45	C	0141.0	0153.0	22.0	88.0	12.0		
	9400	TYKW			0141.0	0153.1		235.0			
	3750	TYKW	21	GRF	0141.0	0325.0	280.0	10.0	5.0		
	8800	LEAR	47	GB	0141.8	0142.6	18.7	340.0			QL=6 ST=2 TYP=5
	2000	TYKW	45	C	0142.0	0142.3	3.0	15.0	2.0		
	2000	TYKW	21	GRF	0142.0	0330.0	300.0	8.0	4.0		
	410	LEAR	47	GB	0142.0	0150.0	11.1	97.0			QL=6 ST=2 TYP=5
	1415	LEAR	47	GB	0142.0	0150.1	13.3	39.0			QL=6 ST=2 TYP=5
	15400	LEAR	47	GB	0142.1	0142.6	1.2	350.0			QL=6 ST=2 TYP=5
	2695	LEAR	47	GB	0142.1	0153.0	13.0	87.0			QL=6 ST=2 TYP=5
	4995	LEAR	47	GB	0142.1	0153.1	11.00	139.0			QL=6 ST=2 TYP=5
	17000	NOBE	21	GRF	0142.2	0158.3	48.0	38.0			O
	17000	NOBE	7	C	0142.5	0142.8	1.0	330.0			R
	4995	PALE	47	GB	0142.5	0142.8	11.5	72.0			QL=6 ST=3 TYP=5
	8800	PALE	47	GB	0142.5	0142.8	11.5	320.0			QL=6 ST=3 TYP=5
	15400	PALE	47	GB	0142.6	0142.8	11.4	270.0			QL=6 ST=3 TYP=5
	35000	NAGO	5	S	0143.0	0143.0	1.0	67.0			
	35000	NAGO	20	GRF	0144.0	0153.0	41.0	32.0			
	2000	TYKW	45	C	0146.0	0153.0	11.0	80.0	12.0		
	1000	TYKW	45	C	0146.0	0153.3	11.0	45.0	9.0		
	1000	TYKW	21	GRF	0146.0	0310.0	240.0	6.0	3.0		
	500	HIRA	46	C	0147.6	0149.7	2.6	200.0	20.0		MR
	610	LEAR	47	GB	0147.8	0148.1	2.5	169.0			QL=6 ST=2 TYP=5
	610	PALE	47	GB	0148.1	0148.1	5.9	189.0			QL=6 ST=3 TYP=5
	410	PALE	47	GB	0148.1	0148.3	.5	110.0			QL=6 ST=3 TYP=5
	1415	PALE	47	GB	0148.1	0150.1	7.2	34.0			QL=6 ST=3 TYP=5
	17000	NOBE	7	C	0150.1	0150.2	1.0	92.0			R
	17000	NOBE	1	S	0152.3	0153.1	3.0	105.0			R
	4995	MANI	47	GB	0152.6	0153.5	2.9	200.0			QL=6 ST=2 TYP=5
	1415	MANI	4	S/F	0152.6	0153.5	3.4	44.0			QL=6 ST=2 TYP=3

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
30	245	LEAR	47	GB	0152.6	0154.5	2.2	100.0			QL=6 ST=2 TYP=5
	1415	MANI	4	S/F	0152.7	0153.5	3.3	44.7	14.9		
	4995	MANI	4	S/F	0152.7	0153.5	2.8	207.2	69.1		
	245	PALE	47	GB	0154.3	0154.5	.5	110.0			QL=6 ST=3 TYP=5
	245	LEAR	47	GB	0156.8	0157.1	1.2	62.0			QL=6 ST=2 TYP=5
	2000	TYKW	30	PBI	0157.0		80.0	3.0	1.5		
	1000	TYKW	30	PBI	0157.0		50.0	3.0	1.5		
	100	HIRA	46	C	0157.0	0157.5	1.2	1500.0	380.0		O
	9395	PEKG	29	PBI	0159.0		43.0D	36.4	23.3		
	3750	TYKW	30	PBI	0203.0		55.0	5.0	2.5		
	3750	TYKW	5	S	0210.0	0215.0	20.0	2.0	1.0		
	100	HIRA	42	SER	0217.0	0220.1	3.3	1800.0			O
	208	VORO	4	S/F	0218.0	0219.0	2.0	97.0			
	200	HIRA	46	C	0218.6	0219.4	1.0	175.0	82.0		O
	245	LEAR	47	GB	0219.0	0219.1	.8	110.0			QL=6 ST=2 TYP=5
	245	PALE	47	GB	0219.1	0219.3	.5	119.0			QL=6 ST=2 TYP=5
	410	PALE	47	GB	0219.1	0220.3	1.4	52.0			QL=6 ST=2 TYP=5
	410	LEAR	8	S	0219.3	0219.5	.5	39.0			QL=6 ST=2 TYP=3
	1000	TYKW	45	C	0231.0	0232.8	5.0	4.0	1.0		
	2000	TYKW	5	S	0231.0	0232.8	6.0	4.0	1.5		
	3750	TYKW	5	S	0231.0	0233.0	5.0	1.5	.5		
	410	PALE	47	GB	0249.1	0251.0	2.2	80.0			QL=6 ST=2 TYP=5
	245	LEAR	8	S	0321.6	0321.6	1.4	11.0			QL=6 ST=2 TYP=3
	17000	NOBE	1	S	0324.2	0326.3	5.0	12.0			O
	1000	TYKW	45	C	0335.6	0336.1	1.0	3.0	.7		
	100	HIRA	46	C	0335.6	0336.8	2.0	1200.0	268.0		O
	610	LEAR	4	S/F	0335.6	0338.1	3.4	22.0			QL=6 ST=2 TYP=3
	200	HIRA	41	F	0335.7	0336.6	2.0	120.0			WR
	245	LEAR	8	S	0336.8	0337.0	.5	20.0			QL=6 ST=2 TYP=3
	1000	TYKW	45	C	0338.0	0338.6	1.0	15.0	3.0		
	208	VORO	4	S/F	0340.0	0341.0	2.0	50.0			
	100	HIRA	42	SER	0359.3	0404.8	7.3	1150.0			O
	3750	TYKW	21	GRF	0425.0	0431.5	50.0	2.0	1.0		
	3750	TYKW	5	S	0440.0	0440.4	3.0	3.5	1.0		
	2000	TYKW	5	S	0440.0	0440.5	1.5	1.5	.5		
	610	LEAR	47	GB	0440.1	0440.1	.7	52.0			QL=6 ST=2 TYP=5
	410	LEAR	8	S	0440.1	0440.1	.2	18.0			QL=6 ST=2 TYP=3
	3750	TYKW	20	GRF	0520.0	0538.0	50.0	3.0	1.5		
	2000	TYKW	20	GRF	0525.0	0538.0	35.0	2.0	1.0		
	245	LEAR	8	S	0547.3	0547.5	1.8	18.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0547.3	0548.6	1.8	13.0			QL=6 ST=2 TYP=3
	200	HIRA	46	C	0600.9	0603.7	5.6	1300.0	67.0		O
	2000	TYKW	5	S	0603.0	0603.7	2.0	6.0	1.5		
	410	LEAR	8	S	0603.1	0603.3	1.2	10.0			QL=6 ST=2 TYP=3
	245	LEAR	47	GB	0603.3	0603.3	1.0	160.0			QL=6 ST=2 TYP=5
	100	HIRA	46	C	0603.4	0603.7	1.7	5400.0	2200.0		WL
	2695	LEAR	8	S	0603.6	0603.8	.4	15.0			QL=5 ST=2 TYP=3
	245	LEAR	8	S	0709.3	0710.3	1.3	32.0			QL=6 ST=2 TYP=3
	536	ONDR	8	S	0924.0	0924.3	.5	14.0			
	930	BORD	41	F	0939.0	0939.3	.5	49.0	2.0		
	810	KRAK	42	SER	0939.3	0940.0	2.5	18.0			
	204	IZMI	42	SER	0955.0	1043.4	53.0	127.0			
	15400	LEAR	8	S	0956.8	0957.3	1.2	32.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	0957.1	0957.1	.2	11.0			QL=6 ST=2 TYP=3
	430	KRAK	2	S/F	1002.5	1002.8	.7	22.0	7.0		
	100	GORK	4	S/F	1013.5	1014.0U	1.5	150.0D			
	113	POTS	4	S/F	1013.6	1014.0	1.0	100.0	15.0		III
	29	UPIC	45	C	1013.7	1014.1	1.4				
	33	UPIC	45	C	1013.9	1014.2	.9				
	536	ONDR	1	S	1029.5	1029.7	.5	10.0			
	810	KRAK	27	RF	1042.0		5.5	4.0	2.0		
	430	KRAK	27	RF	1042.0		5.5	5.0	4.0		
	6100	KISV	2	S/F	1049.0	1050.0	1.5	4.0			
	536	ONDR	8	S	1114.3	1114.4	.1	26.0			
	127	TORN	42	SER	1340.2	1348.6	12.5	300.0			
	113	POTS	42	SER	1340.4	1348.5	13.0	500.0	5.0		III
	1415	SGMR	8	S	1340.5	1340.8	1.8	42.0			QL=6 ST=3 TYP=3
	536	ONDR	46	C	1340.5	1341.0	2.0	43.0	13.0		
	808	ONDR	1	S	1340.5	1341.0	2.0	10.0	6.0		
	430	KRAK	4	S/F	1340.5	1341.0	2.0	118.0	32.0		
	245	SGMR	4	S/F	1340.6	1341.1	2.2	39.0			QL=6 ST=3 TYP=3

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Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
30	810	KRAK	4	S/F	1340.7	1341.3	1.7	47.0	16.0		
	610	SGMR	47	GB	1340.8	1341.1	1.0	139.0			QL=6 ST=3 TYP=5
	410	SGMR	47	GB	1340.8	1341.1	1.0	80.0			QL=6 ST=3 TYP=5
	1415	ATHN	4	S/F	1340.8	1342.3	2.2	30.0			QL=6 ST=2 TYP=3
	430	KRAK	8	S	1341.4	1341.6	.2	11.0			
	245	SGMR	47	GB	1346.5	1348.3	3.1	189.0			QL=6 ST=3 TYP=5
	234	POTS	42	SER	1346.5	1349.3	3.1	275.0	2.0		III
	2800	OTTA	21	GRF	1515.0	1550.0	95.0	2.6	1.3		
	2800	OTTA	1	S	1518.0	1519.7	4.0	4.0	1.4		
	2800	OTTA	23	GRF	1735.0	2025.0	270.0	6.0			
	2800	OTTA	4	S/F	1806.0	1807.0	4.0	15.6	10.4		
	4995	SGMR	8	S	1806.6	1806.8	1.0	30.0			QL=6 ST=2 TYP=3
	610	PALE	47	GB	1806.8	1806.8	2.3	93.0			QL=6 ST=2 TYP=5
	610	SGMR	47	GB	1806.8	1806.8	2.5	68.0			QL=6 ST=2 TYP=5
	4995	PALE	8	S	1806.8	1807.0	.3	24.0			QL=6 ST=2 TYP=3
	2800	OTTA	30	PBI	1810.0	1810.0	75.0	6.2	3.0		
	2800	OTTA	1	S	1817.0	1818.0	2.0	2.0	1.0		
	8800	PALE	47	GB	1843.6	1845.3	3.0	70.0			QL=6 ST=2 TYP=5
	2800	OTTA	3	S	1844.8	1845.3	2.5	21.0	6.0		
	15400	PALE	47	GB	1845.0	1845.3	2.8	52.0			QL=6 ST=2 TYP=5
	4995	PALE	8	S	1845.0	1845.3	.8	36.0			QL=6 ST=2 TYP=3
	8800	SGMR	8	S	1845.0	1845.3	1.0	49.0			QL=6 ST=3 TYP=3
	15400	SGMR	8	S	1845.0	1845.3	1.5	31.0			QL=6 ST=3 TYP=3
	4995	SGMR	8	S	1845.1	1845.3	.7	28.0			QL=6 ST=3 TYP=3
	1415	SGMR	4	S/F	1845.1	1845.3	2.2	19.0			QL=6 ST=3 TYP=3
	610	SGMR	49	GB	1845.1	1845.3	1.2	2899.0			QL=6 ST=3 TYP=6
	610	PALE	49	GB	1845.1	1845.3	.5	5000.0			QL=6 ST=2 TYP=6
	2695	SGMR	8	S	1845.3	1845.5	.5	29.0			QL=6 ST=3 TYP=3
	1415	PALE	8	S	1845.3	1845.5	.3	13.0			QL=6 ST=2 TYP=3
	9400	HUAN	4	S/F	1845.4	1846.2	2.2	43.8	16.0		0
	2800	OTTA	2	S/F	1853.0	1856.5	5.0	9.4	4.5		
	610	PALE	47	GB	1853.8	1854.1	1.5	92.0			QL=6 ST=2 TYP=5
	9400	HUAN	1	S	1853.9	1855.9	4.3	10.3	5.6		0
	410	SGMR	47	GB	1918.6	1919.0	1.0	300.0			QL=6 ST=2 TYP=5
	410	PALE	47	GB	1918.6	1919.1	1.0	200.0			QL=6 ST=2 TYP=5
	245	SGMR	47	GB	1918.8	1919.1	.7	210.0			QL=6 ST=2 TYP=5
	245	PALE	47	GB	1918.8	1919.1	2.0	290.0			QL=6 ST=2 TYP=5
	610	PALE	8	S	1946.0	1947.0	1.3	34.0			QL=6 ST=2 TYP=3
	245	PALE	8	S	2141.8	2142.3	.7	40.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	2223.3	2224.6	4.0	30.0			QL=6 ST=2 TYP=3
	9400	HUAN	2	S/F	2223.5	2224.5	3.8	17.8	8.9		0
	2695	LEAR	8	S	2223.6	2224.5	1.2	13.0			QL=6 ST=2 TYP=3
	4995	LEAR	8	S	2223.8	2224.6	1.2	20.0			QL=6 ST=2 TYP=3
	15400	LEAR	8	S	2223.8	2224.6	1.0	21.0			QL=6 ST=2 TYP=3
	2695	PENT	3	S	2223.8	2224.7	2.5	13.0	5.0		
	200	HIRA	42	SER	2355.0	2359.0	7.0	67.0			0
	100	HIRA	42	SER	2355.1	2358.6	7.4	560.0			0
	245	LEAR	4	S/F	2356.3	2359.1	3.0	20.0			QL=6 ST=2 TYP=3
	610	LEAR	8	S	2358.1	2358.8	.9	11.0			QL=6 ST=2 TYP=3
31	245	LEAR	43	NS	0316.3	0621.3	354.3	90.0			QL=6 ST=2 TYP=1
	260	ONDR	44	NS	0824.0E		341.0D				
	9400	TYKW			0013.0	0016.5		53.0			
	9400	TYKW	45	C	0013.0	0018.5	10.0	61.0	14.0		
	3750	TYKW	45	C	0014.0	0016.4	10.0	27.0	8.0		
	3750	TYKW			0014.0	0018.5		18.0			
	8800	LEAR	47	GB	0014.8	0016.3	5.0	60.0			QL=6 ST=2 TYP=5
	1000	TYKW			0015.0	0016.5		4.0			
	2000	TYKW			0015.0	0016.6		14.0			
	1000	TYKW	45	C	0015.0	0018.6	6.0	24.0	3.0		
	2000	TYKW	45	C	0015.0	0018.6	5.0	18.0	6.0		
	4995	LEAR	4	S/F	0015.1	0016.3	4.0	39.0			QL=6 ST=2 TYP=3
	8800	PALE	47	GB	0015.1	0018.3	4.4	58.0			QL=6 ST=2 TYP=5
	1415	PALE	8	S	0016.0	0016.3	.6	35.0			QL=6 ST=2 TYP=3
	1415	LEAR	4	S/F	0016.0	0016.3	3.0	43.0			QL=6 ST=2 TYP=3
	2695	LEAR	4	S/F	0016.0	0016.5	2.8	22.0			QL=6 ST=2 TYP=3
	4995	PALE	4	S/F	0016.1	0016.5	3.4	26.0			QL=6 ST=2 TYP=3
	15400	LEAR	4	S/F	0016.1	0018.1	2.9	20.0			QL=6 ST=2 TYP=3
	610	LEAR	47	GB	0016.1	0018.1	2.7	74.0			QL=6 ST=2 TYP=5
	610	PALE	47	GB	0016.3	0018.5	2.2D	82.0			QL=6 ST=2 TYP=5
	15400	PALE	8	S	0018.3	0018.5	1.2	19.0			QL=6 ST=2 TYP=3

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

DECEMBER 1982

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
31	2000	TYKW	29	PBI	0020.0		30.0	2.0	1.0		
	1000	TYKW	29	PBI	0021.0		30.0	1.5	.7		
	9400	TYKW	29	PBI	0023.0		20.0	10.0	4.0		
	3750	TYKW	29	PBI	0024.0		20.0	4.0	2.0		
	3750	TYKW	20	GRF	0105.0	0120.0	55.0	1.5	.7		
	2000	TYKW	20	GRF	0105.0	0210.0	110.0	2.0	1.0		
	1000	TYKW	20	GRF	0120.0	0200.0	140.0	2.0	1.0		
	3750	TYKW	20	GRF	0210.0	0230.0	45.0	1.5	.7		
	245	LEAR	4	S/F	0218.8	0218.8	2.5	19.0			QL=6 ST=2 TYP=3
	200	HIRA	42	SER	0220.0	0242.5	23.0	260.0			0
	100	HIRA	42	SER	0231.0	0242.9	17.0	1600.0			WL
	245	LEAR	8	S	0232.6	0233.1	.9	38.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0242.5	0242.8	1.1	20.0			QL=6 ST=2 TYP=3
	245	LEAR	47	GB	0305.6	0305.8	.2	69.0			QL=6 ST=2 TYP=5
	3750	TYKW	21	GRF	0333.0	0350.0	55.0	2.0	1.0		
	3750	TYKW	5	S	0334.0	0334.7	3.0	1.5	.5		
	200	HIRA	41	F	0349.3	0349.6	7.0	47.0			0
	3750	TYKW	5	S	0509.0	0515.0	11.0	6.0	3.5		
	9400	TYKW	20	GRF	0510.0	0525.0	70.0	3.0	1.5		
	2000	TYKW	5	S	0512.0	0515.4	6.0	6.0	3.0		
	1000	TYKW	5	S	0514.0	0515.5	3.0	1.5	.7		
	2000	TYKW	29	PBI	0518.0		40.0	2.0	1.0		
	3750	TYKW	29	PBI	0520.0		50.0	3.0	1.5		
	245	LEAR	8	S	0605.1	0605.1	.2	28.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0605.1	0605.1	.2	4.0			QL=6 ST=2 TYP=3
	610	LEAR	8	S	0707.0	0707.1	1.1	18.0			QL=6 ST=2 TYP=3
	410	LEAR	8	S	0707.0	0707.8	1.1	11.0			QL=6 ST=2 TYP=3
	6100	KISV	1	S	0707.0	0708.0	3.0	3.0			
	410	LEAR	8	S	0733.8	0733.8	.2	10.0			QL=6 ST=2 TYP=3
	1415	LEAR	8	S	0753.6	0753.8	.7	11.0			QL=6 ST=2 TYP=3
	127	TORN	42	SER	0828.2	0828.7	3.5	30.0			
	610	LEAR	8	S	0849.6	0849.8	.2	5.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0849.8	0849.8	.2	23.0			QL=6 ST=2 TYP=3
	610	LEAR	8	S	0919.3	0919.8	1.5	5.0			QL=6 ST=2 TYP=3
	430	KRAK	8	S	0919.5	0919.5	.2U	79.0			
	410	LEAR	8	S	0919.8	0920.3	1.2	28.0			QL=6 ST=2 TYP=3
	245	LEAR	8	S	0920.0	0920.8	1.0	15.0			QL=6 ST=2 TYP=3
	536	ONDR	8	S	0921.0	0921.3	.5	28.0			
	113	POTS	4	S/F	1010.5	1010.6	.9	200.0	10.0		III
	536	ONDR	8	S	1033.0	1033.0	.1	7.0			
	536	ONDR	8	S	1054.5	1054.5	.1	6.0			
	536	ONDR	46	C	1120.0	1120.5	1.5	22.0			
	536	ONDR	8	S	1122.0	1122.0	.1	22.0			
	127	TORN	45	C	1128.3	1129.3	2.5	70.0			
	2800	OTTA	2	S/F	1927.0	1927.5	2.0	2.0	1.0		

Reports are received routinely from the following observatories:

ATHN = Athens
BERN = Berne
BORD = Bordeaux
CRIM = Crimea
DWIN = Dwingeloo
GORK = Gorky
HIRA = Hiraiso
HUAN = Huancayo
IRKU = Irkutsk
IZMI = IZMIRAN
KISV = Kislovodsk
KRAK = Krakow
LEAR = Learmonth
MANI = Manila
NAGO = Nagoya
NOBE = Nobeyama
ONDR = Ondrejov
OTTA = Ottawa
PALE = Palehua
PEKG = Peking
PENT = Penticton
POTS = Potsdam
SAOP = Sao Paulo
SGMR = Sagamore Hill
TORN = Torun
TYKW = Toyokawa
TRST = Trieste
UPIC = Upice
VORO = Voroshilov

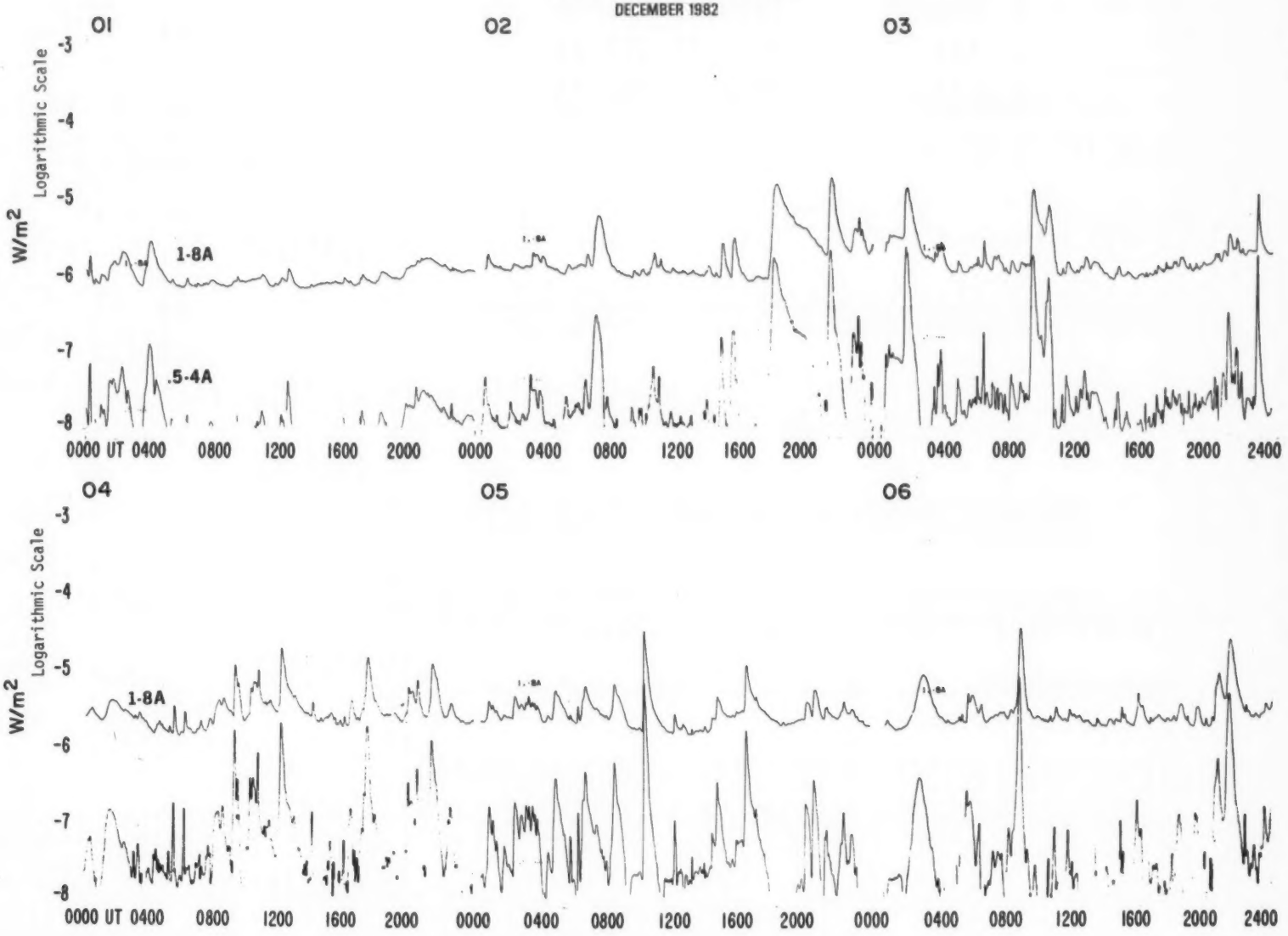
Explanation of Type Code:

1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precursor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
33 Absorption
40 Fluctuation
41 Group of Bursts
42 Series of Bursts
43 Onset of Noise Storm
44 Noise Storm In Progress
45 Complex
46 Complex F
47 Great Burst
48 Major
49 Major +

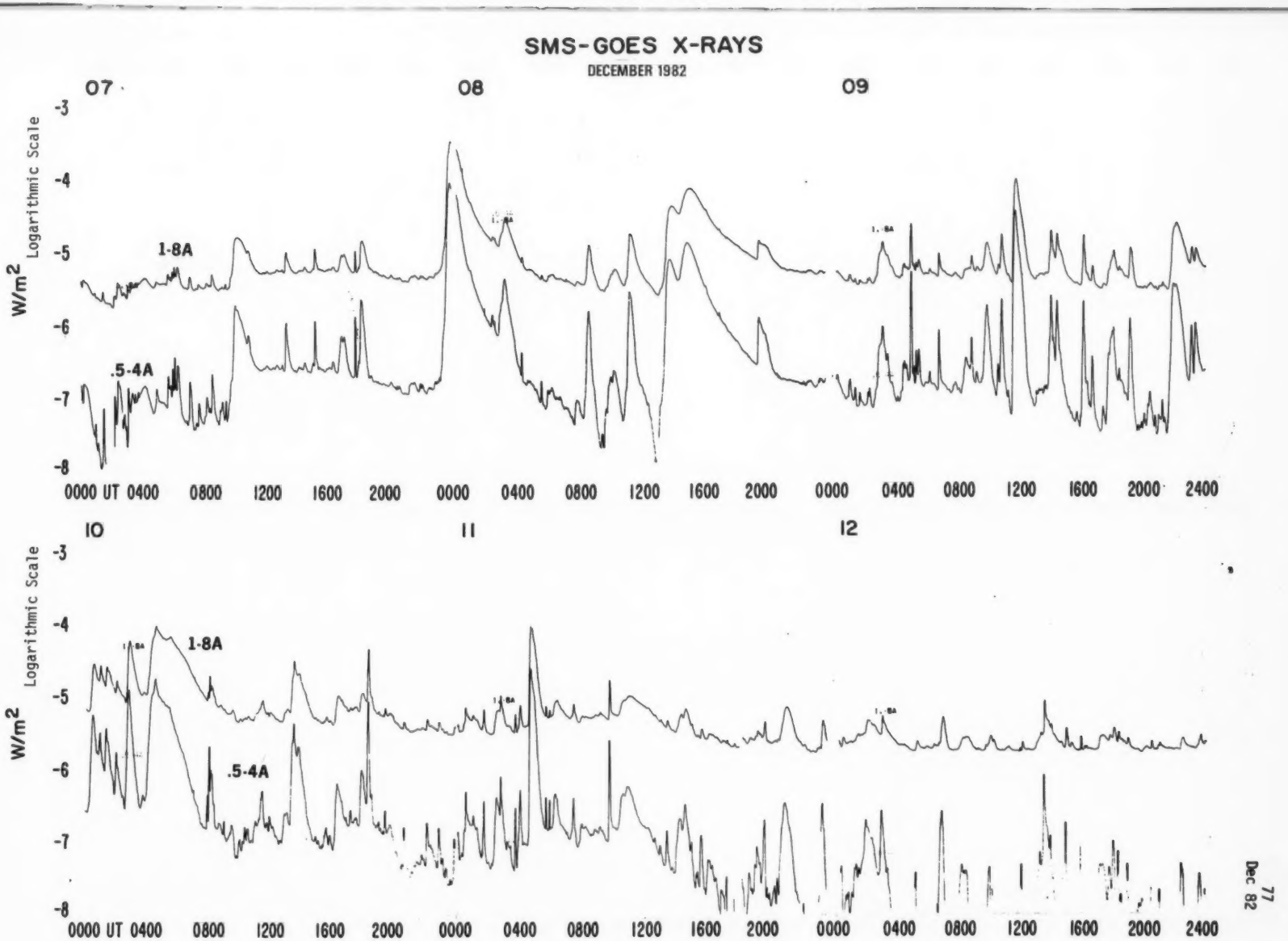
1A Simple 1A
3A Simple 2A
21A Simple 3A GRF
2A Simple 1AF
4A Simple 2AF
240 Rise only
240F Rise only F
24P Post Rise
24PF Post Rise F
16A Fall A
260 Fall Only
26F Fall F
27F Rise and Fall F
27AF Rise and Fall AF
31A Post Burst Decrease A
32A Absorption A
46F Complex F

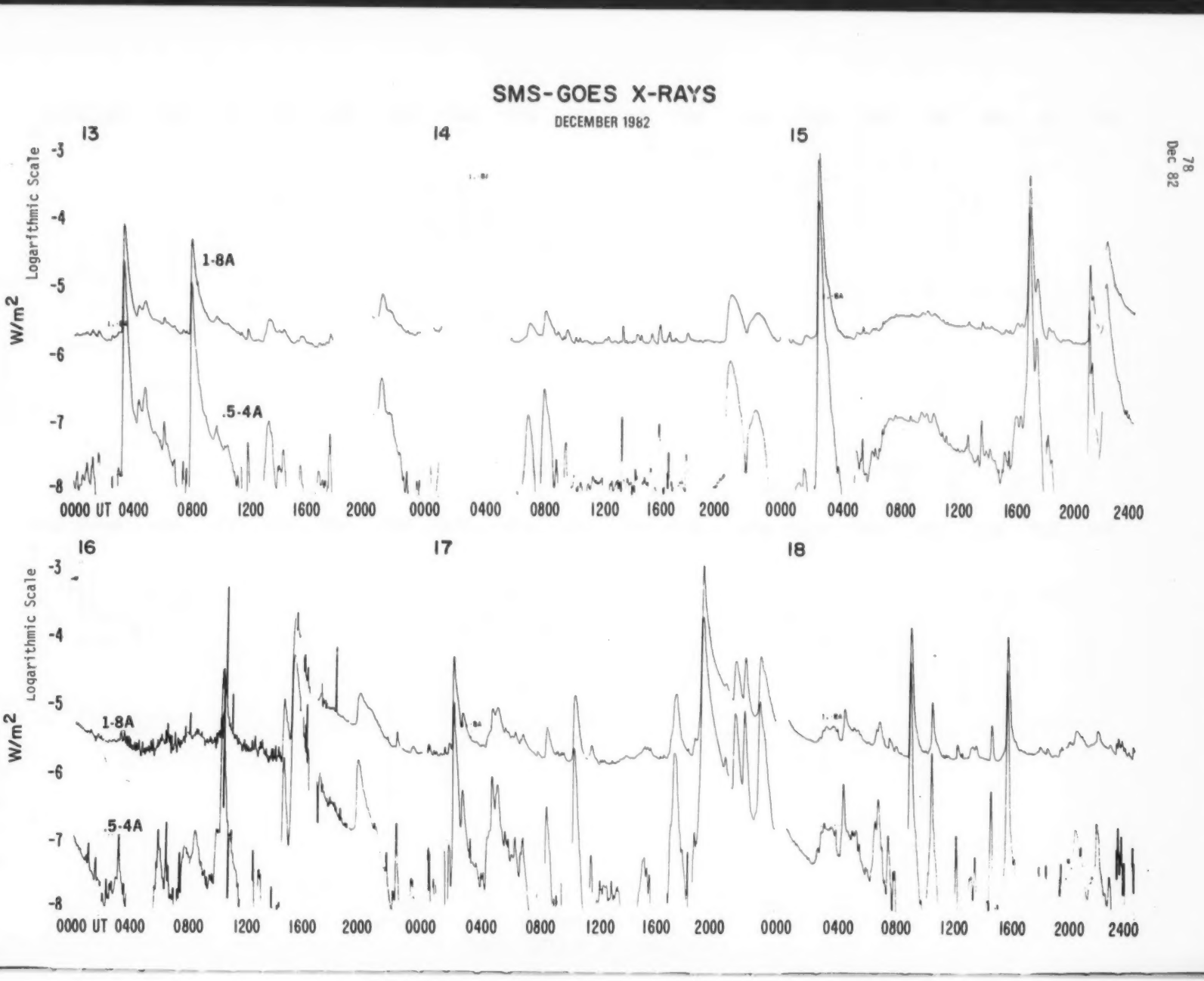
SMS-GOES X-RAYS

DECEMBER 1982



SMS-GOES X-RAYS


SMS-GOES X-RAYS
DECEMBER 1982
07
08
09
10
11
12
W/m2
Logarithmic Scale
-3
-4
-5
-6
-7
-8
1-8A
.5-4A
0000 UT 0400 0800 1200 1600 2000 0000 0400 0800 1200 1600 2000 0000 0400 0800 1200 1600 2000 2400
77
Dec 82



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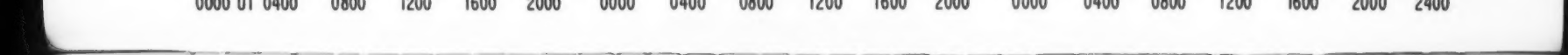
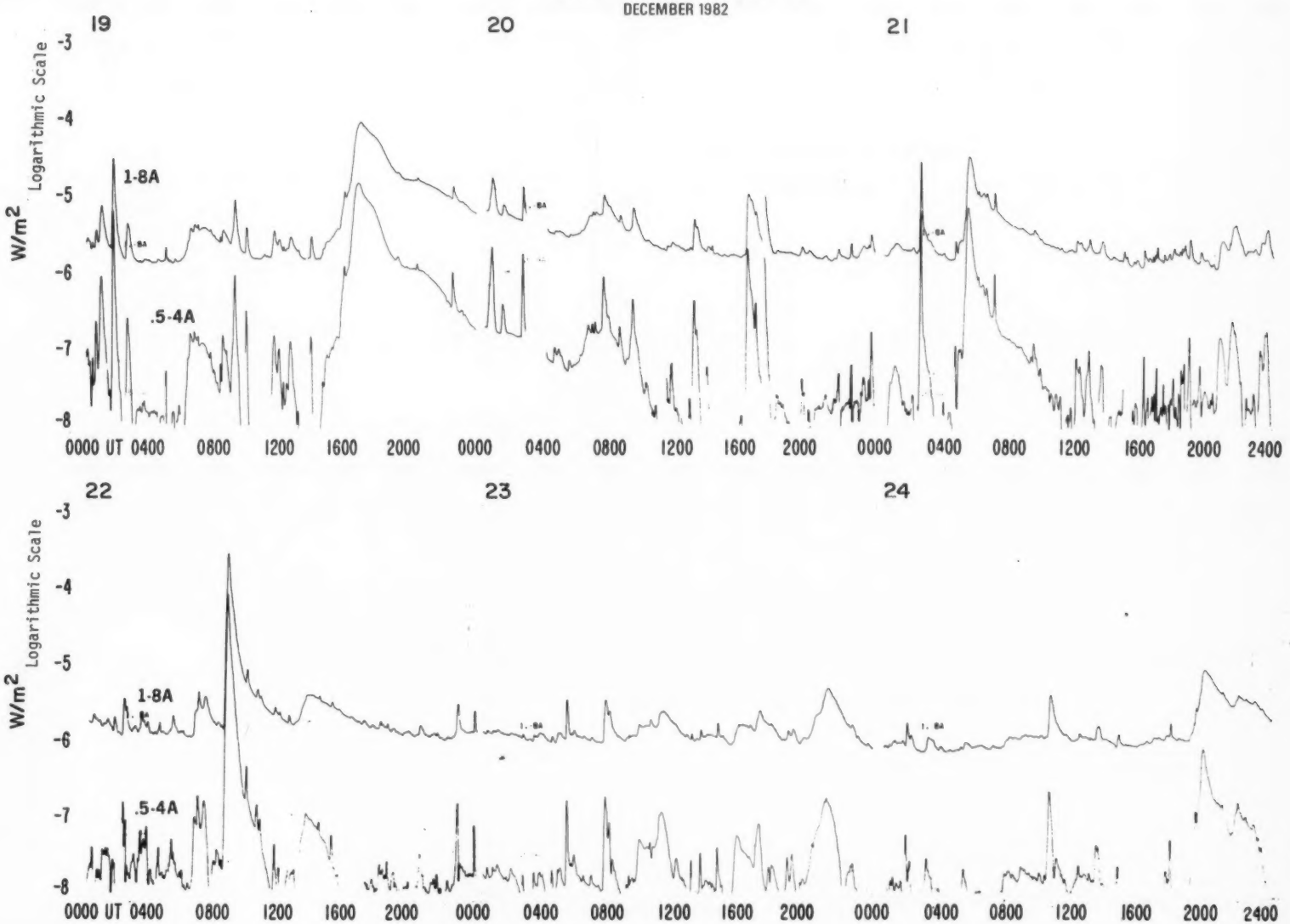


SMS-GOES X-RAYS

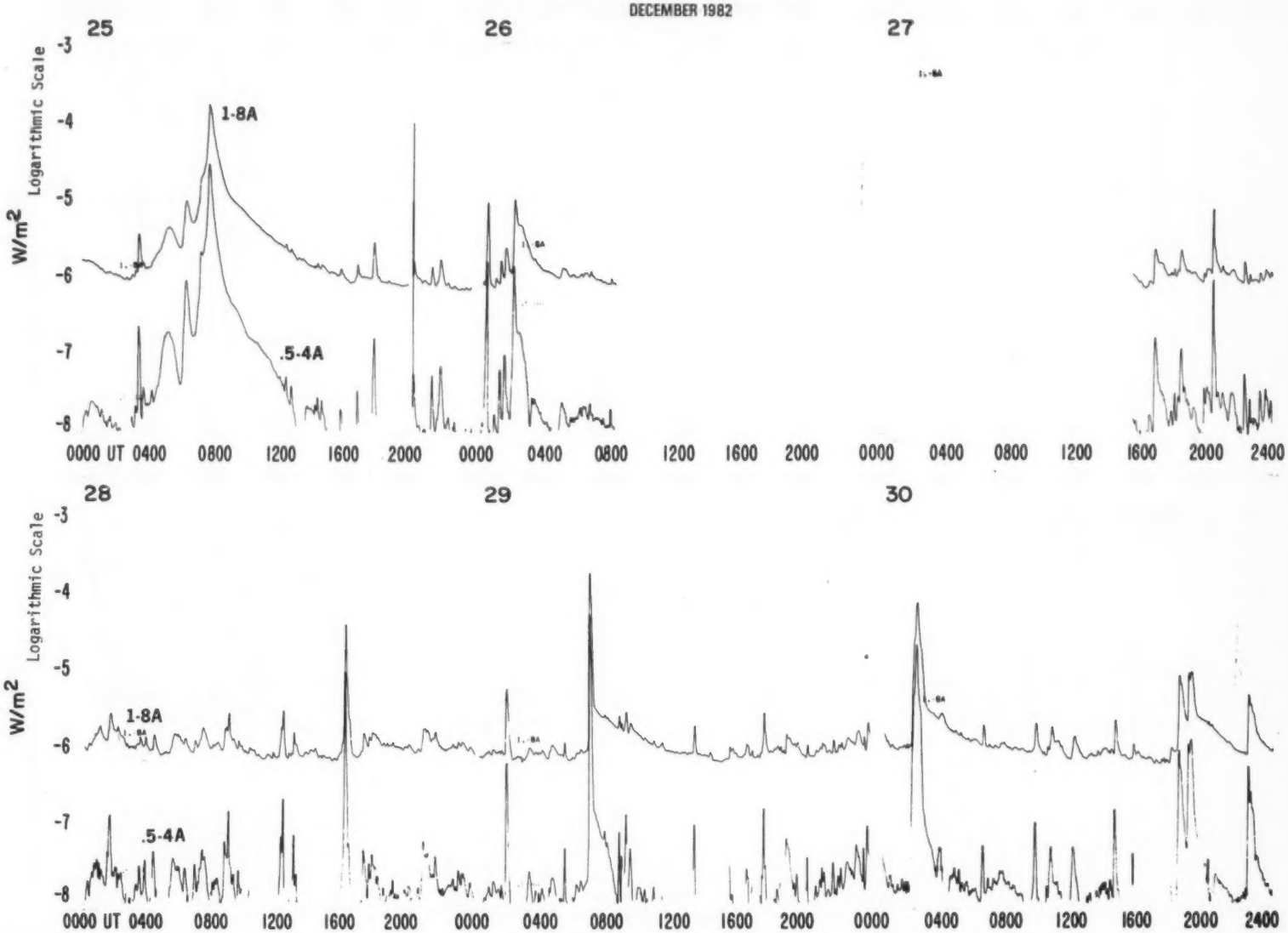
DECEMBER 1982



79
Dec 82

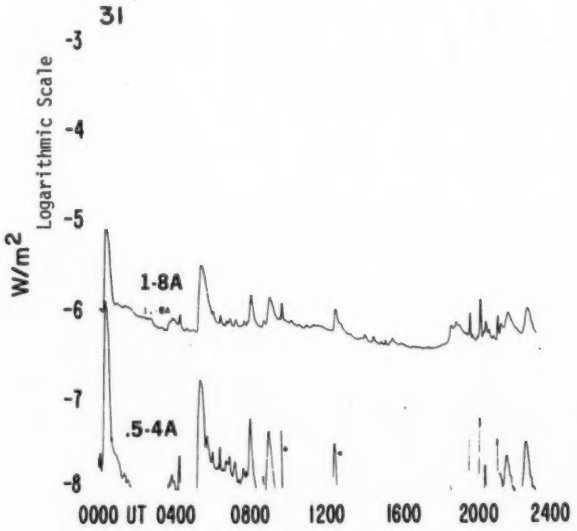
SMS-GOES X-RAYS

DECEMBER 1982



SMS-GOES X-RAYS

DECEMBER 1982



MASS EJECTIONS FROM THE SUN

December 1982

Sta	Day	Observed UT Start	Max	End	Location RA°	R/R_O	Freq or Wavelength	Kind of Event
CULG	Dec 02	0319.0		0344.5			Meter	II
CULG	Dec 02	0649.0		0657.5			Meter	II
CULG	Dec 02	2119.5		2135.5			Meter	II
VORO	Dec 03	0142		0212	083	0.883	H-alpha	SP
WEND	Dec 04	0954	1020	1136 D	106	1.0-1.08	H-alpha	A
WEND	Dec 04	0954	1117	1136 D	106	1.0-1.08	H-alpha	A
LEAR	Dec 07	0913.8		0935.0			Meter	II
WEIS	Dec 07	0913.8		0933.2			30-130 MHz	II Harmonic
CULG	Dec 07	2340.0		2400.0			Decimeter; meter	IV
CULG	Dec 07	2343.5		2400.0			Deci; meter; deka	II
LEAR	Dec 07	2344.1		0021.6			Meter	IV
CULG	Dec 08	0000.0		0030.0			Decimeter; meter	IV
CULG	Dec 08	0000.0		0023.5			Meter; dekameter	II
BLEN	Dec 08	1412.9		1457.0D			Meter	IV
WEIS	Dec 08	1421.4		1445.0			150-1000 MHz	IV
VORO	Dec 09	0252		0340	109	0.583	H-alpha	SP
VORO	Dec 09	0259	0305	0320	288	0.4	H-alpha	SP
WEIS	Dec 09	1132.9		1135.2			35-46 MHz	II
WEIS	Dec 09	1158.8		1203.8			30-46 MHz	II Drifting pair
CULG	Dec 10	0029.0		0031.5			Meter	
WEND	Dec 10	1037 E	1050	1132	097	1.0-1.07	H-alpha	A
CULG	Dec 11	0446.0		0508.0			Meter	II
CULG	Dec 11	2112.0		2132.0			Meter	II
SGMR	Dec 13	1256.8		1308.0			Meter	II
CULG	Dec 14	0012.0		0015.5			Meter	II
CULG	Dec 14	0033.0		0038.0			Meter	II
LEAR	Dec 15	0156.8		0224.0			Meter	IV
PALE	Dec 15	0156.8		0157.8			Meter	II
CULG	Dec 15	0158.5		0210.0			Decimeter	IV
CULG	Dec 15	0200.0		0230.0			Meter; dekameter	II Intermittent
CULG	Dec 15	0201.0		0220.0			Meter	IV
LEAR	Dec 15	0201.3		0209.0			Meter	II
VORO	Dec 15	0220	0222	0242	103	0.5	H-alpha	SP
SGMR	Dec 15	1632.1		1650.6			Meter IV	
BLEN	Dec 16	1002.7		1115.0			Decimeter; meter	IV
WEIS	Dec 16	1004.3		1050			200-1000 MHz	IV
CULG	Dec 17	0147.5		0153.5			Decimeter; meter	II
PALE	Dec 17	0148.1		0158.1			Meter	II
PALE	Dec 17	1900.6		1906.6			Meter	II
CULG	Dec 17	2032.5		2045.0			Meter	II
CULG	Dec 17	2148.0		2155.0			Meter	II
BLEN	Dec 18	0832.7		0834.9			Decimeter; meter	II
CULG	Dec 19	0140.0		0156.0			Decimeter	IV
CULG	Dec 19	0141.5		0144.0			Meter	II
LEAR	Dec 20	0128.8		0147.6			Meter	II
CULG	Dec 20	0129.0		0143.0			Meter	II Herringbone
ABST	Dec 20	0619	0654	0734	280	1.00	H-alpha	Q
CULG	Dec 21	0506.0		0508.0			Meter	II
CULG	Dec 21	0525.0		0532.0			Meter	II
ABST	Dec 21	0614	0902	0902	105	1.00	H-alpha	Q

MASS EJECTIONS FROM THE SUN

December 1982

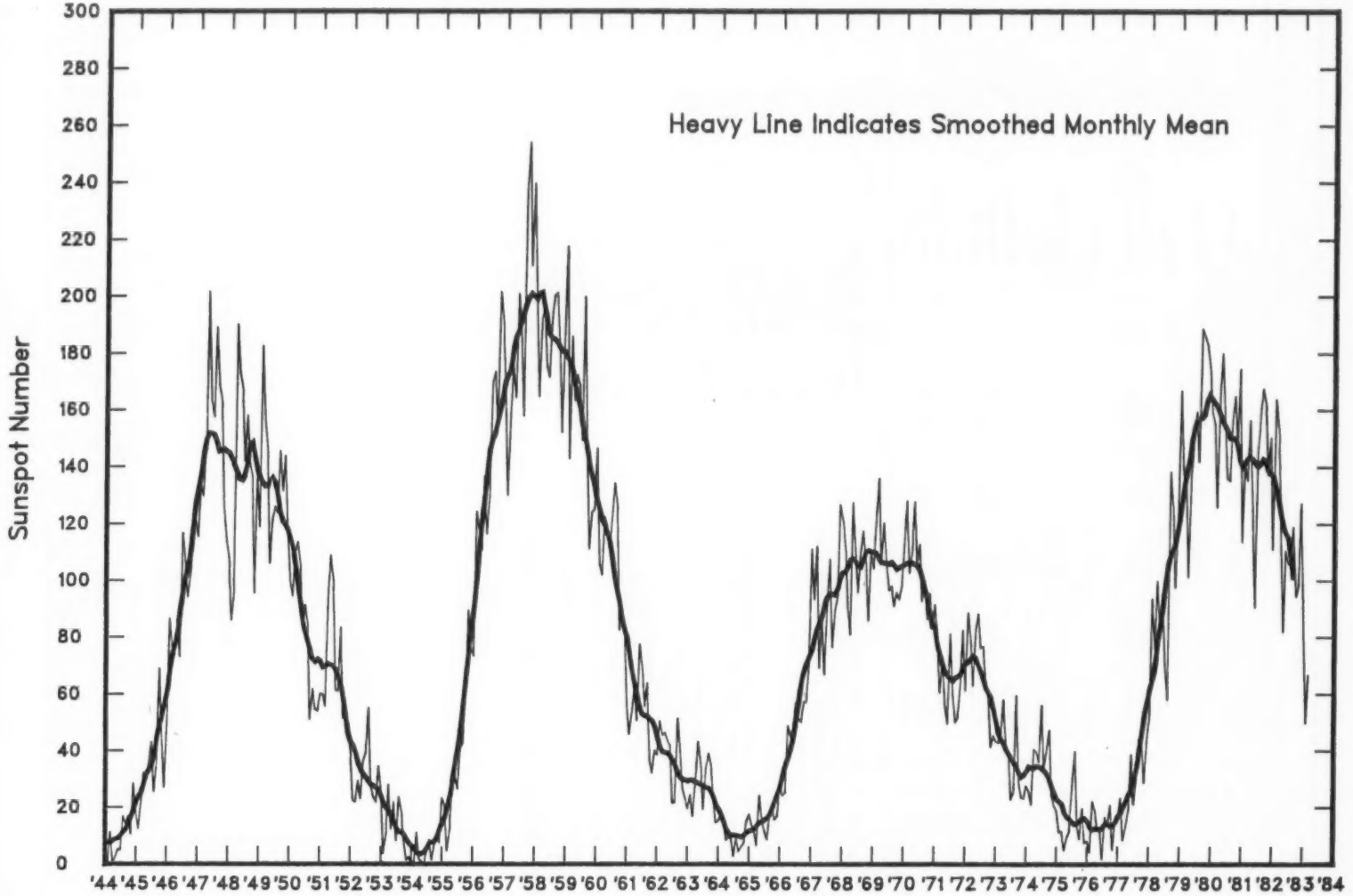
Sta	Day	Observed UT Start	Max	End	Location RA°	R/R_o	Freq or Wavelength	Kind of Event
ABST	Dec 22	0755	0825	0900	265	1.00	H-alpha	SP
ABST	Dec 25	0615	0641	0700	105	0.75	H-alpha	SP
PALE	Dec 26	0011.1		0015.0			Meter	II
ABST	Dec 26	0752	0800	0810	102	0.30	H-alpha	SP
ABST	Dec 26	0756	0800	0805	102	0.36	H-alpha	SP
CULG	Dec 27	0455.5		0512.0			Meter	II
CULG	Dec 29	0644.5		0659.5			Decimeter	IV
CULG	Dec 29	0645.5		0711.0			Meter	II
LEAR	Dec 29	0647.6		0711.5			Meter	II
CULG	Dec 29	0659.5		0733.5			Decimeter	IV
ABST	Dec 29	0830	0830	0920	277	1.00	H-alpha	SP
ABST	Dec 29	0902	0916	0925	260	0.50	H-alpha	SP
CULG	Dec 30	0153.0		0158.0			Decimeter	II
ABST	Dec 30	0611	0617	0632	260	0.68	H-alpha	SP
ABST	Dec 30	0659	0739	0814	250	1.00	H-alpha	Q

QUALIFIERS ON START, MAX AND END TIMES
D = event ended after tabulated time
E = event began before the tabulated time
U = uncertain time

TYPE OF EVENT
A = eruptive active region prominence
CB = coronal cloud bubble
D = coronal depletions
E = coronal enhancement
EL = coronal expanding loop
II = Type II radio burst
IVm = moving Type IV radio burst
Q = eruptive quiescent prominence
R = coronal ray or streamer
S = flare-surge if there is a known flare association
SP = flare-spray if there is a known flare association
* = movement may be caused by ionospheric refraction

REPORTING STATIONS
ABST = Abastumani
BIGB = Big Bear
BLEN = Bleien
CULG = Culgoora
DWIN = Dwingeloo
GEOR = Georgiana
HALE = Haleakala
HARV = Harvard (Fort Davis)
KHAR = Kharkov
LEAR = Learmonth
LVOV = Lvov
MANI = Manila
MITK = Mitaka
PALE = Palehua
SGMR = Sagamore Hill
TELV = Tel Aviv
VORO = Voroshilov
WEIS = Weissenau
WEND = Wendelstein
UDAI = Udaipur

MONTHLY MEAN SUNSPOT NUMBERS
January 1944 – March 1983



SGD 466 Part II (Comprehensive)

MISCELLANEOUS DATA

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ACTIVE REGIONS
CARRINGTON ROTATION 1725
(August 8 to September 4, 1982)

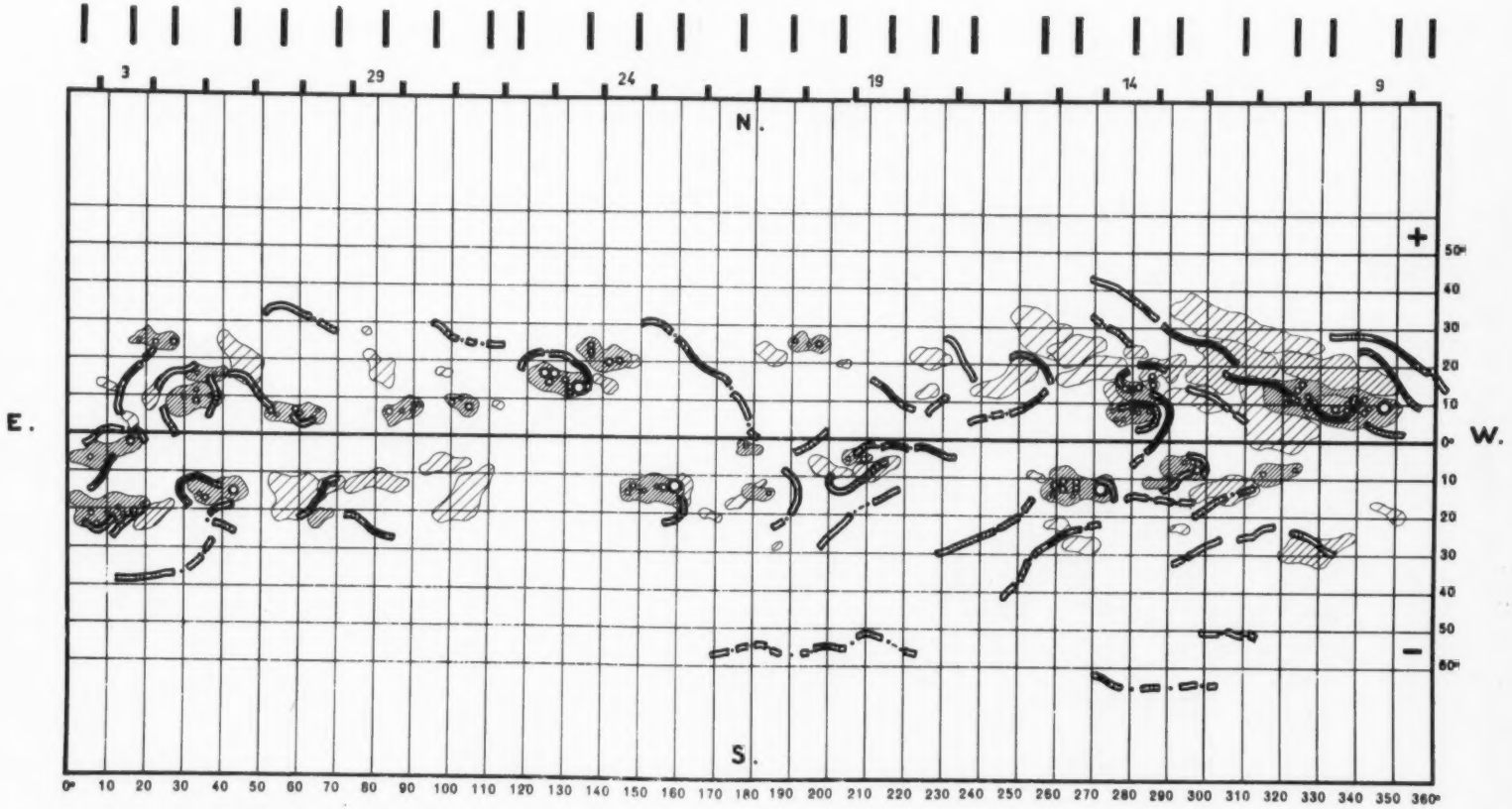
Region No.	Coordinates Lat.	Long.	IMP	Age at CMP (Days)	Spot-less Region	Region No. In Rotation 1724	Activity at West Limb
1	18°S	349	1	>6	x		disappeared
2	19°N	337	1	>6	x		decreasing
3	10°N	334	6	>6		7	decreasing
4	10°N	334	4	>6			decreasing
5	28°S	331	1	>6	x		decreasing
6	8°S	320	2	+4			decreasing
7	6°N	318	1	>6	x	12	decreasing
8	30°N	311	1	>6	x	9	dispersed
9	22°N	307	1	>6	x		decreasing
10	12°S	306	1	>6	x	13-14	dispersed
11	13°N	298	1	>6	x		dispersed
12	6°S	295	3	>6			decreasing
13	23°S	294	1	+2	x		disappeared
14	11°S	289	1	>6	x		dispersed
15	20°N	289	2	>6			decreasing
16	24°N	282	1	+4	x		dispersed
17	8°N	281	3	-1			stable
18	13°N	281	2	>6		21	decreasing
19	13°N	281	3	-3			stable
20	12°S	266	6	+5			stable
21	25°N	266	1	>6	x	24	dispersed
22	14°S	263	2	-4			stable
23	9°S	256	1	+6	x		decreasing
24	17°N	248	1	+2	x		disappeared
25	22°N	228	1	>6	x		dispersed
26	13°N	227	1	+4	x		disappeared
27	7°S	214	1	>6	x		dispersed
28	5°S	208	2	+5			decreasing
29	20°N	205	1	+2	x		disappeared
30	7°S	200	1	>6	x		dispersed
31	26°N	195	2	+3			decreasing
32	28°S	187	1	0	x		disappeared
33	23°N	185	1	>6	x		dispersed
34	14°S	182	2	-1			decreasing
35	2°S	179	2	+2			decreasing
36	15°S	179	1	>6	x		disappeared
37	20°S	169	1	>6	x		disappeared
38	14°S	162	2	>6			disappeared
39	13°S	154	5	>6			decreasing
40	21°N	148	1	>6	x		disappeared
41	14°N	141	1	>6	x		dispersed
42	20°N	140	4	0			decreasing
43	15°N	130	6	+5			decreasing
44	9°N	112	1	-3	x		dispersed
45	16°S	104	1	>6	x	39	dispersed
46	9°N	103	3	0			stable
47	7°S	99	1	>6	x	39	dispersed
48	17°N	98	1	+5	x		disappeared
49	7°N	88	3	+4			decreasing
50	18°N	81	1	>6	x		disappeared
51	12°S	80	1	>6	x		decreasing
52	13°S	69	2	-5			stable
53	22°S	66	1	+5	x		dispersed
54	7°N	63	2	+5			dispersed
55	16°S	59	1	>6	x	40	dispersed
56	6°N	56	3	+5			stable
57	20°N	45	1	>6	x	41	dispersed
58	15°S	39	3	>6			decreasing
59	16°N	36	2	0			decreasing
60	10°N	33	3	>6			decreasing
61	25°N	23	2	-1			dispersed
62	11°N	22	1	>6	x		dispersed
63	22°S	22	1	>6	x		decreasing
64	3°N	16	1	-5	x		dispersed
65	20°S	12	4	>6			stable
66	5°S	10	3	>6			decreasing
67	12°N	10	1	>6	x		dispersed

SYNOPTIC SOLAR MAP

CARRINGTON ROTATION 1725

August 8 – September 4, 1982

MEUDON OBSERVATORY



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SOME OTHER SOURCES OF DATA

Data Available: Some data available in publication form are cited here. A list is given, along with addresses of the responsible institutions. The WDC-A for Solar-Terrestrial Physics publishes the Toyokawa, Ottawa and Penticton radio data in its monthly publication, *Solar-Geophysical Data*. The WDC-A for Solar-Terrestrial Physics also receives most of the periodicals when they become available.

Belgium: *Bulletin d'Observations: Activite Solaire - Observations Radio-electriques Solaires - 600 MHz (Humain, Belgium)* Observatoire Royal de Belgique, Ave. Circulaire 3, Brussels, Belgium (monthly since 1962)

Canada: *Solar Noise Observations at 2800 Mc/s (Ottawa - ARO) and 2700 Mc/s (Penticton - DRAO)* Series C Monthly Report, National Research Council, Radio Astronomy Section Ottawa 7, Ontario, Canada (since 1947)

France: *Carte Synoptiques de la Chromosphere Solaire* Observatoire de Paris, 92 Meudon, France (monthly since 1931)

Germany: *Daily Mean Value of Solar Flux Density* Heinrich-Hertz Institut, 1199 Berlin-Adlershof, Rudower Chaussee 5, G.D.R. (monthly since Jul 1957)

Italy: *Solar Phenomena - Monthly Bulletin and Photographic Supplement* Osservatorio Astronomica di Roma, Monte Mario, Rome, Italy (monthly since 1958); *Osservazion Solari, Solar Flux and Distinctive Events* Osservatorio Astronomico Di Trieste (quarterly since 1965); *Solar Observations made at Catania Astrophysical Observatory* (annually since 1967)

Japan: *Monthly Report of Solar Radio Emission* Radio Astronomy Section, Research Institute of Atmospherics, Nagoya University, Toyokawa, Japan (since 1956); *Solar Activity Chart* WDC-C2, Toyokawa Observatory, Nagoya University, Toyokawa, Japan (annually since 1968); *IAU Quarterly Bulletin on Solar Activity* Tokyo Astronomical Observatory, Mitaka, Tokyo, Japan (since 1978)

Netherlands: *Geomagnetic Data* IAGA Bulletin No. 12 (1932-69), No. 32 (since 1970) IUGG Publications Office, 39 ter, Rue Gay-Lussac, Paris V, France (annually)

Philippines: Manila Observatory "Solar Maps and Activity", Manila Observatory, P.O. Box 1231, Manila, Philippines (monthly)

Switzerland: Bulletin of "Berne Solar Observations", Institute of Applied Physics, Div. of Solar Observations, Sidlerstrasse 5, 3012 Berne, Switzerland (since 1968)

Taiwan: *Report on Sunspot Observations* Taiwan Provincial Weather Bureau Observatory, Taipei, Taiwan (quarterly since 1957)

USSR: СОЛНЕЧНЫЕ ДАННЫЕ *(Solar Data)* USSR Academy of Science (monthly since 1958); КОСМИЧЕСКИЕ ДАННЫЕ *(Cosmic Data)* (monthly since 1962); *Magnetic Fields of Sunspots* (bimonthly since 1964)

USA: *Preliminary Report and Forecast of Solar-Geophysical Activity* Space Environment Services Center, NOAA, Boulder, Colorado 80303 USA (weekly); *Solar-Geophysical Data* NOAA, Boulder, Colorado 80303 USA (monthly since November 1955)

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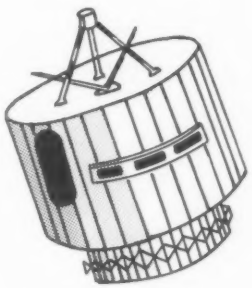
DATA ANNOUNCEMENT

SPACE ENVIRONMENT DATA from the SMS & GOES SATELLITES

The Space Environment Monitor instrument package on-board all SMS/GOES satellites has provided magnetometer, energetic particle, and soft X-ray data continuously since July 1974. Two SMS/GOES satellites operate simultaneously in the Earth's equatorial plane. They travel in geosynchronous orbit (6.67 Earth radii) and are generally located at 75° and 135° west longitude. This trajectory allows the detectors an unobstructed view of the Sun for all but the few dozen hours per year that the Earth eclipses the Sun. The time resolution for all three sensors is approximately 3 seconds, which permits one month's data from each sensor to be stored on a single 9-track, 1600-BPI, binary tape. Plots are available on microfilm.

MAGNETOMETER

A twin fluxgate spinning sensor allows representation of the Earth's magnetic field in three mutually perpendicular components: H_p, H_e and H_n. H_p is parallel to the satellite spin axis, which is itself perpendicular to the satellite's orbital plane. H_e lies parallel to the satellite-Earth center line and points earthward. H_n is perpendicular to both H_p and H_e, and points westward. Field strength changes as small as 0.2 gamma can be measured.



PARTICLE DETECTOR

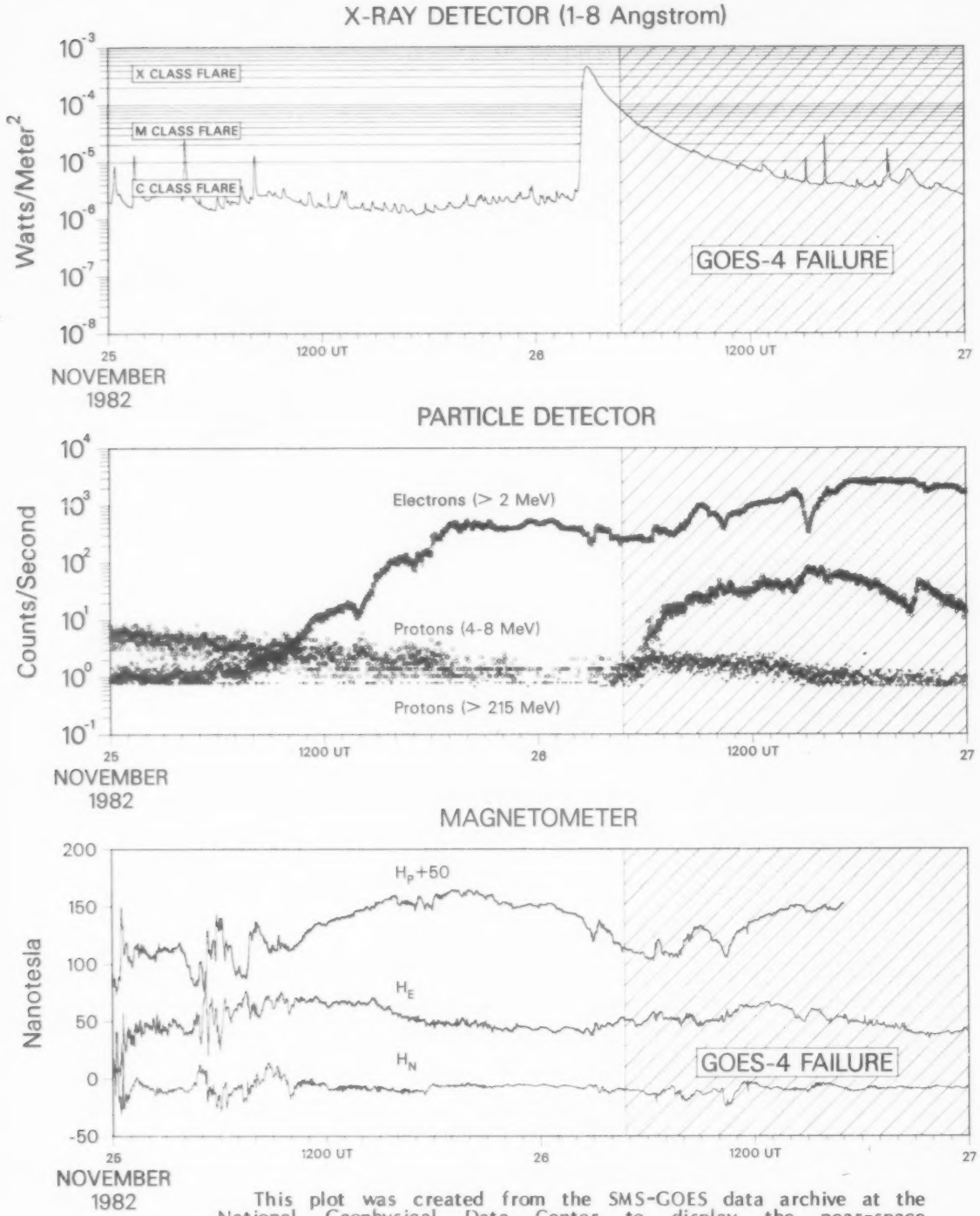
Solid state detectors with pulse height discrimination measure protons from 0.8 to 500 MeV, alpha particles from 4.0 to 392 MeV, and electrons with kinetic energies greater than or equal to 2.0 MeV. Since solar protons and alpha particles in these energy ranges accelerated in solar flares can reach the vicinity of Earth, they pose a hazard to manned space flight and to high-altitude aircraft. They can as well significantly affect the high-latitude ionosphere.

X-RAY DETECTOR

Ion chamber detectors provide whole Sun fluxes for the 0.5-to-4 and 1-to-8 Angstrom X-ray wavelength bands. These observations furnish a sensitive means of detecting the start of solar flares and thereby changes in the dayside ionosphere.

Address your inquiries to Mrs. Viola Miller, National Geophysical Data Center, NOAA code D631, 325 Broadway, Boulder, Colorado 80303, USA (Telephone (303) 497-6136, FTS 320-6136).

GOES-2 SPACE ENVIRONMENT MONITOR
(108° West Longitude)



This plot was created from the SMS-GOES data archive at the National Geophysical Data Center to display the near-space environment coincident with the failure of the GOES-4 satellite. See the inside back cover of this issue of "Solar-Geophysical Data" for more information concerning this valuable archive.